

fi-6670, fi-6670A, Image Scanner fi-667PR, Imprinter Maintenance Manual



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04	April 27, 2009	P31, 32, 33, 49: Maintenance Parts added. P89: Title changed. P110, 112, 123, 125: Notes at Optical Unit ADF replacement added.
05	July 13, 2009	P32, 42, 43: Remarks on Fuses added. P132, 137, 141, 144: Notes on Maintenance mode added.

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Preface

This manual provides the technical information such as maintenance, troubleshooting procedure and parts replacement procedure for field Engineers on fi-6670/fi-6670A image scanner.
This manual is not responsible if used for other than maintenance.

For information that is not contained in this manual, refer to the following manuals:

Item	Manuals	P/N *
1	fi-6670(A)/fi-6770(A)/fi-6750S Image Scanner Operator's Guide	P3PC-2252-xxEN
2	fi-6670(A)/fi-6770(A)/fi-6750S Image Scanner Getting Started	P3PC-2242-xxEN
3	fi-667PR Imprinter Operator's Guide	P3PC-2262-xxEN
4	fi-6670/fi-6670A/fi-667PR Illustrated Parts Catalog	P4PA03576-B5XX/6

* xx represents revision number of the manuals.

Convention

Special information, such as warnings, cautions, are indicated as follows:



WARNING

WARNING indicates that personal injury may result if you do not follow a procedure correctly.



CAUTION

CAUTION indicates that damage to the scanner may result if you do not follow a procedure correctly.



NOTICE

NOTICE provides "how-to" tips or suggestions to help you perform a procedure correctly.

General note:

Be careful not to power off the scanner while communicating with the host computer. In case that the scanner is accidentally powered off during communication with the host, follow the procedure below:

1. Power off the host computer.
2. Power on the scanner.
3. Power on the host computer.

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References to operating systems (OS) and applications are indicated as follows:

Windows 2000: Microsoft® Windows® 2000 Professional operating system.

Windows XP: Microsoft® Windows® XP Professional operating system (32-bit/64-bit)
Microsoft® Windows® XP Home Edition operating system.

Windows Server2003: Microsoft® Windows Server™ 2003 Standard Edition operating system (32-bit/64-bit)

Windows Vista: Microsoft® Windows Vista® Home Basic operating system (32-bit/64-bit)
Microsoft® Windows Vista® Home Premium operating system (32-bit/64-bit)
Microsoft® Windows Vista® Business operating system (32-bit/64-bit)
Microsoft® Windows Vista® Enterprise operating system (32-bit/64-bit)
Microsoft® Windows Vista® Ultimate operating system (32-bit/64-bit)

Where there is no distinction between the different versions of the above operating system, the general term “Windows” is used.

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Chapter 1 Overview

1.1 Scanner Overview

1.1.1 Features

The fi-6670/fi-6670A, image scanner offers up to A3 sized paper scanning through the ADF. It provides faster color document scanning speed than the preceding model (fi-5650C) and has the following features:

- Initiate scanning from the scanner with “Send to” or “Scan/Stop” button
- Ultra SCSI or USB 2.0 interfaces
- Wide range of paper weight
- Ultrasonic multifeed detection
- Selectable background color (black or white) in the ADF.

An imprinter (option) can be installed on the scanner.

1.1.2 Scanner Specification

No.	Item		Specification			Remarks
1	Operating method		Automatic Document Feeder (ADF)			
2	Image sensor		Color CCD (Charge-coupled device) x 2			ADF front/back
3	Light source		White cold cathode discharge lamp x2			
4	Optical resolution		600dpi x 600dpi (main scanning x sub-scanning)			
5	Output resolution	Binary	50-600dpi			
		Grayscale	50-600dpi			
		Color	50-600dpi			
6	Internal video processing		1024 levels			
7	Video output format		Monochrome: 1 bit/pixel Grayscale:8 bit/pixel (R,G,B, Non-Dropout) 4bit/pixel(Generated by the device driver) Color: 8bit and 24 bit/pixel 8bit and 4bit/pixel(Generated by the device driver)			
8	ADF	Scanning speed (Calculated) (Note 1)		Simplex (ppm)	Duplex (ipm)	
			Binary/Gray/ Color	90	180	@A4, Landscape, 200 dpi,
				70	140	@A4, Portrait, 200 dpi,
				80	160	@A4, Landscape, 300 dpi,
				60	120	@A4, Portrait, 300 dpi,
				47	94	@A4,Landscape, 400 dpi,
				30	60	@A4,Portrait, 600 dpi,
				30	60	@A4,Landscape, 600dpi,
				22	44	@A4 Portrait, 600dpi,
		Paper size	Minimum A8 Portrait (52 x 74mm) Maximum A3 Portrait (297 x 420mm) or 11x17 (279.4 x 431.8mm) Note) 3m (120 in.), Binary/Grayscale/Color long page scanning available (Note 2)			
		Maximum permissible document width	297 mm (width of A3 Portrait)			

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No.	Item		Specification		Remarks	
8 (cont’)	ADF (cont’)	Paper thickness (weight)	A4/Letter Size or Smaller : 0.04mm to 0.25mm (31 to 209 g/m ² , or 8.3 to 56.1 lb) Over A4/Letter size : 0.06 mm to 0.25 mm (52 to 209g/m ² ,or 13.8 to 56.1 lb) A8 size : 0.152mm to 0.25mm (127 to 209 g/m ² , or 33.8 to 56.1lb)			
		Capacity of ADF	Chute: Maximum 200 sheets at A4, 20 lb, or 80 g/m ² Stacker: Maximum 300 sheets at A4, 20 lb, or 80 g/m ²		Stacker position is Bottom.	
		Sheet setting	Front side down			
		Multifeed detection	Yes (Standard) Ultrasonic sensor or Length check sensor Ultrasonic sensor and Length check sensor		Refer to Section 1.1.7.	
		Background	White / Black selectable (Front and back shall be the same color. Default is White)			
9	Interface		fi-6670 fi-6670A	- Standard I/F Ultra SCSI (Half-pitch 50 pin) x 1 USB2.0 x 1 - CGA (fi-6670: Option) Ultra SCSI (Half-pitch 68 pin) x 1 USB2.0 x 1	*Can be connected to either of standard I/F or CGA.	
10	Image processing function		Error diffusion, Dither (Standard)			
11	Image compression		Hardware real-time JPEG compression (standard)		Only for Grayscale, Color	
12	Image memory		384MB x 2 (Total of 768MB)		Not possible to enhance	
13	Energy Star® compliance		Yes		Note 3	
14	Driver		FJ TWAIN, ISIS			
15	Operator panel		Buttons: Scan/Stop, Send to, Function Lamps: Power, Scanner status (Function Number Display)			
16	Bundled Software		-FJ Twain -ScandAll PRO -ISIS -QuickScan PRO (demo version) -Adobe Acrobat (latest version) -Software Operation Panel (demo version) -Visual Error Recovery Guide -Image Processing Software V2.5 -VRS_4.2		Supplied by DVD-ROMs	
18	Option		Item	Specification	Function	
			Imprinter option	fi-667PR PA03576-D101	Letter printing on the document	Refer to Chapter 8
			CGA option (fi-6670 only)	fi-677CGA PA03576-K001	Image processing (Threshold)	Processing speed is deteriorated slightly a bit. Software IPC

Note 1) Actual scanning speed may be slow due to the system environment of the scanner.

Scanning speed for color is calculated with compression and Ultra SCSI or USB 2.0 interface.

Note 2) The feeding error rate is not applicable when the paper is longer than A3 or 11 x 17.

To specify length 864mm or over, resolution must be 200dpi or less.

Long page scanning may make the scanning speed deteriorated.

Note 3) Automatically sleep mode works, if scanner is not used.

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1.1.3 Environmental Specification

No.	Items		Specifications
1	Outer dimension		641 (W) x 432 (D) x 300 (H) mm *1
2	Installation space		1179 (W) x 686 (D) x 390 (H) mm *2
3	Weight		17kg (37.5lb) or less
4	Noise		53 dB or less
5	Input power	Voltage range	AC100V to 240V $\pm$ 10%
		Phase	Single phase
		Frequency range	50/60Hz $\pm$ 3Hz
6	Power consumption	Operating	216 W or less (Rated power)
		Not operating	88W or less (at stand-by)
		Sleep mode	fi-6670: 6W or less fi-6670A: 9.1W or less
7	Environmental condition	Temperature	Operating: 5 to 35 °C (41 to 95 °F) Not operating: -20 to 60 °C (-4 to 140 °F)
		Humidity	Operating: 20 to 80 % Not operating: 8 to 95 %
8	Calorific value	Operating	186Kcal/Hr or less
		Not operating	76Kcal/Hr or less (at stand-by)
		Sleep mode	fi-6670: 5.2Kcal/Hr or less fi-6670A: 7.8Kcal/Hr or less

*1: Width – The operator panel excluded.

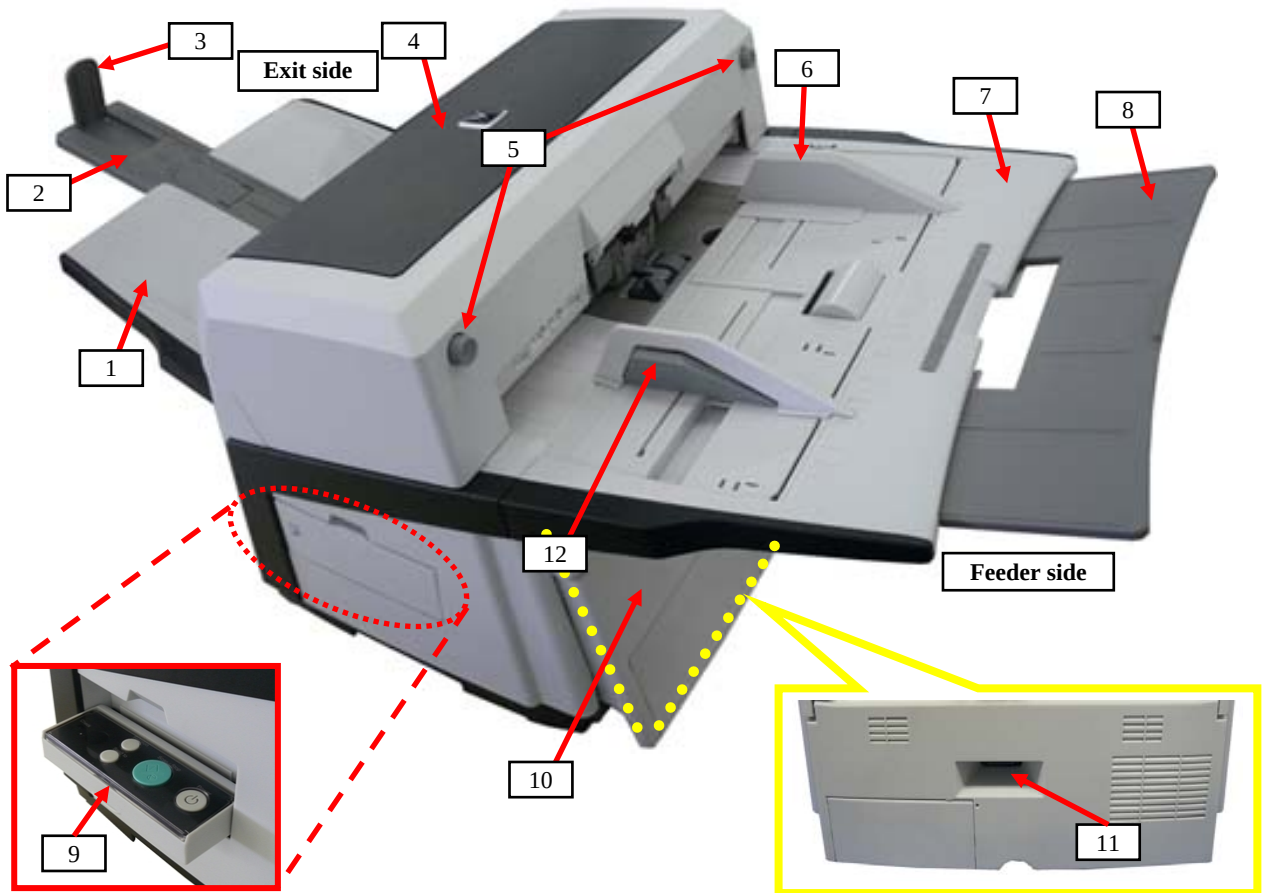
Depth – ADF Paper Chute and Stacker excluded.

*2: Reference value when scanning A4 size documents

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1.1.4 Appearance

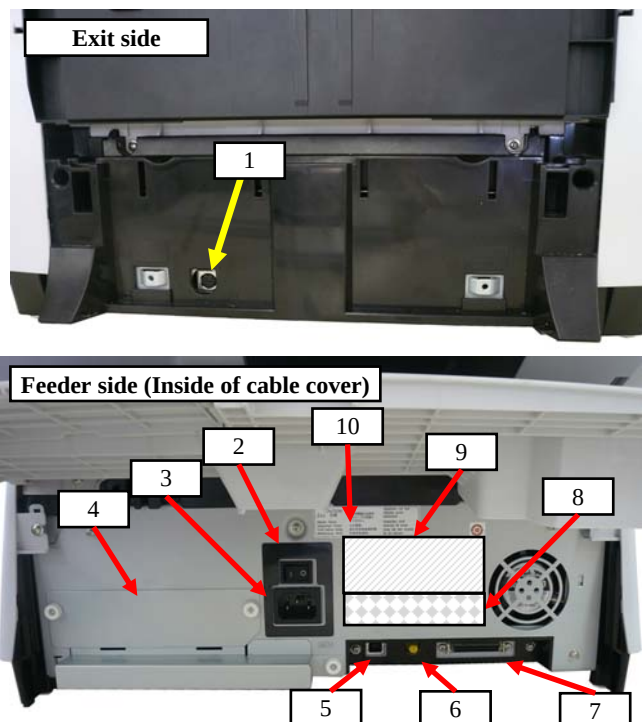
[Front]



No.	Parts name	Function
1	Stacker	Scanned documents are ejected from the ADF onto this stacker. The height of the stacker is adjustable. It is also removable.
2	Stacker Extension	Pull out the extension according to the document length.
3	Paper Stopper	Raise it if the documents loaded are long.
4	ADF (Automatic Document Feeder)	Feeds documents to the scanning position automatically. Documents are fed sheet by sheet when loaded for batch scanning. Both sides of documents can be scanned at one time.
5	ADF Buttons	Open the ADF. Push the button down while opening the ADF.
6	Side Guide	Prevents document from being skewed during feeding. Adjust the guide to the width of the documents loaded.
7	ADF Paper Chute	Holds the pages/sheets that are to be fed into the ADF. Documents should be loaded face down.
8	Paper Chute Extension	Pull out when scanning a long size documents.
9	Operator Panel	The Operator Panel includes a Function Number Display, operating push buttons, and a Check LED. Used to operate the scanner and monitor its status. Two panels are included; one on each side. You can use whichever is convenient for you. The panels are of quick-open type, and can be folded back in place when not used.
10	Cable Cover	Covers the AC cable and interface cables.
11	Hole for power switch and power inlet	Power switch and power inlet are available with the cable cover closed.
12	Side Guide Button	Adjusts the position of the Side Guide when kept pressed. Locks the Side Guide at the position when this button is released.

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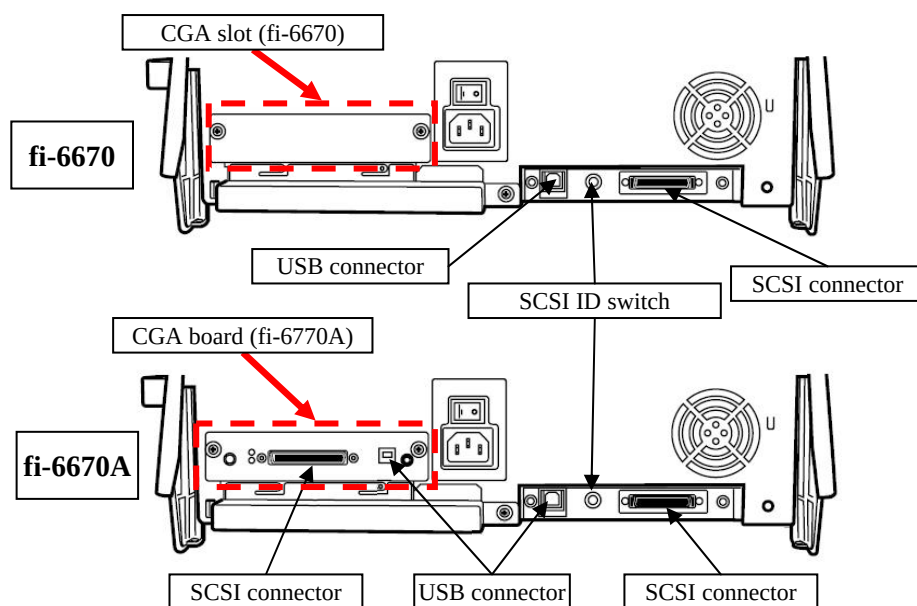
[Sides]



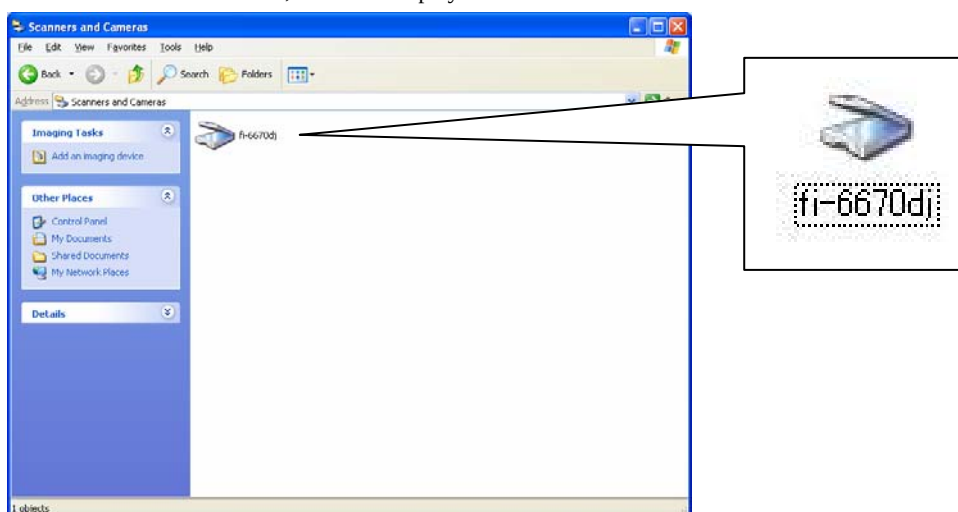
No.	Parts name	Function
1	EXT Connector	A connector for connecting to the imprinter option
2	Main Power Switch	Used to turn scanner ON and OFF.
3	Power Connector	Connects a power cable.
4	Third-Party Slot (CGA board) * Refer to [Interface] for details.	Location where a CGA Interface Card or optional boards are installed. * fi-6670: Used when CGA board is extended as option. * fi-6670A: Standard equipment
5	USB Interface Connector * Refer to [Interface] for details.	Connects a USB interface cable.
6	SCSI ID Switch * Refer to [Interface] for details.	Used to configure a SCSI ID. (ID=5 by factory setting) The ID which has been set here is reflected to the SCSI-ID of the CGA.
7	SCSI Interface Connector * Refer to [Interface] for details.	Connects a SCSI interface cable.
8	Certification Label	
9	Manufacturing Label	
10	Electric Shock Hazard Label	

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[Interface]



When connected to each interface, the name displayed on the Windows screen differs as shown in the table below.



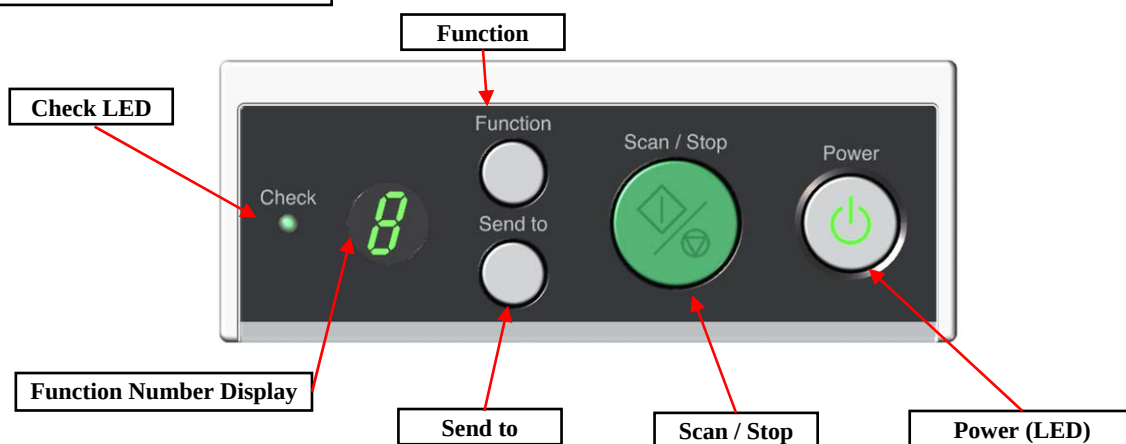
Scanner model	Display	Scanner driver		
		FUJITSU TWAIN32	FUJITSU ISIS	Kofax VRS
fi-6670	Scanner (SCSI/USB connector) side	fi-6670dj	fi-6670	Kofax VRS Scanner
	CGA board side (option)			
fi-6670A	Scanner (SCSI/USB connector) side	fi-6670dj	fi-6670	Kofax VRS Scanner
	CGA board side			

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[Operator Panel]



[LED]
Power ON or OFF can be confirmed with the cover closed.

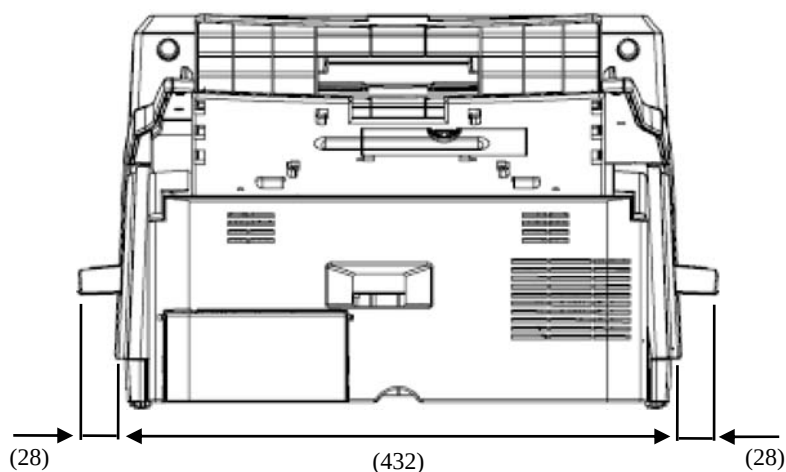
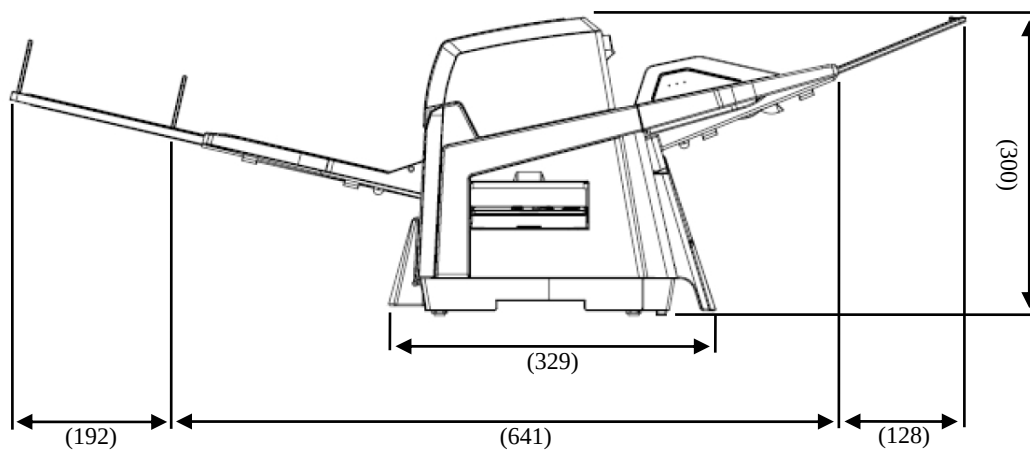
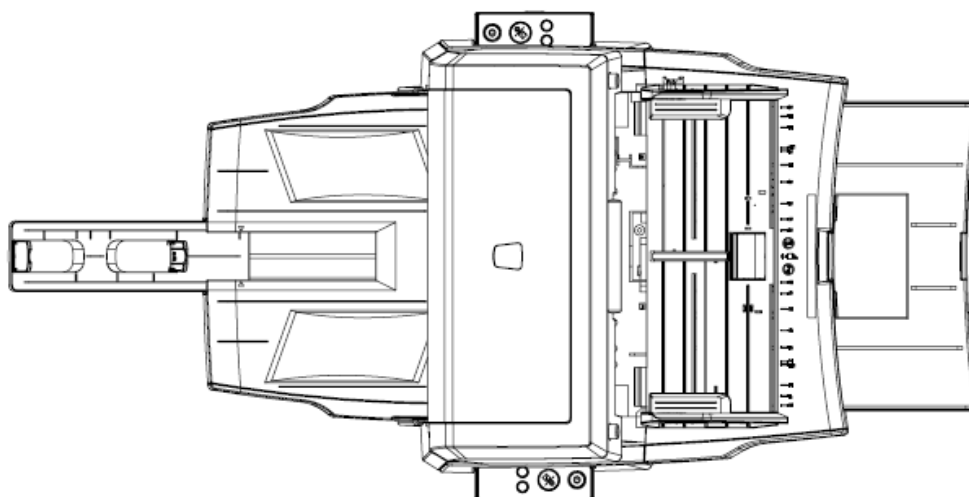


Name		Function
Function Number Display		Indicates the function number and Error status (alarm).
Button	Function	Changes the Function activated by the [Send to] button.
	Send to	Launches the linked application software to run scanning, etc. Resets an error. Launches the Software Operation Panel when "C" is displayed on the Function Number Display. (Keep pressing more than 1 second to activate.)
	Scan / Stop	Launches the linked application software to run scanning, etc. Resets an error. (Keep pressing more than 1 second to activate.) Cancels ongoing scanning (Initializes the Function Number Display.).
	Power / Power LED	Turns the scanner ON and OFF. Lights in green when the scanner is turned ON.
LED	Check LED	Lights (in orange) when an error occurs.

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1.1.5 Outer Dimensions

Unit: mm



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1.1.6 Document Specification

- Recommended Document Type

- Woodfree paper
- Paper containing wood

- Paper thickness

Paper thickness is expressed by the “Paper weight” specification. The following paper weights are available for ADF scanning. When scanning paper other than the type or weight listed above, perform a test-scan with a few sheets before executing the actual task in order to check whether or not the document can be scanned.

Paper size	A8	A7 ~ A5	A4 / Letter / Legal	B4	A3 / 11x17
Paper weight	127~209.3 g/ m ²	31 to 209.3 g/ m ²		52.3 to 209.3 g/m ²	

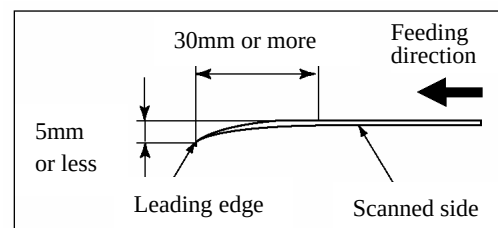
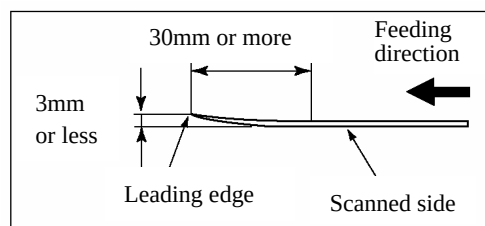
“Portrait” orientation only available for the following sizes of documents:

A8, Legal, B4, A3, 11x17

- Precautions

Scanning the following documents through the ADF is not recommended

- Document of non-uniform thickness (e.g. envelopes)
- Wrinkled or curled documents (See right figure)
- Folded or torn documents
- Tracing paper
- Coated paper
- Carbon paper
- Carbonless paper
- Photosensitive paper
- Perforated or punched documents
- Documents that are not square or rectangular
- Very thin documents
- Photo (developing paper)



Do not scan the following documents through the ADF:

- Paper-clipped or stapled documents
- Documents where the ink is still wet
- Documents smaller than A8 (Portrait) in size
- Documents larger than A3 (297mm) size
- Documents other than paper such as fabric, metal foil or transparencies
- Important documents such as certificates and cash vouchers that must not get scratched or become smeared

NOTICE

- Carbonless paper contains chemical substances that may harm the Brake Rollers or paper-feeding rollers (e.g. Pick Rollers) when documents are fed. Pay attention to the following:
Cleaning: If document jams occur frequently, clean the Brake Rollers and the Pick Rollers.
Replacing parts: The service life of the Brake Rollers and the Pick Rollers for scanning “carbonless paper” may be shorter than that for scanning “wood containing paper.”
- The service life of the Brake Rollers and the Pick Rollers for scanning “wood containing paper” may become shorter than that for scanning “woodfree paper.”
- The Brake Rollers or Pick Rollers could be damaged if any photos or sticky notes on your document have contact with the Brake Rollers or Pick Rollers during scanning.
- Scanning documents of calendered paper, such as photos, may damage their surface.

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1.1.7 Multi feed Detection Conditions

One of the following 3 methods of multi feed detection is available in the scanner.

- Check overlapping (Ultrasonic)
- Check length
- Check overlapping and length

The following conditions are required for each selection:

1) Check overlapping

- Paper weight: 31 ~ 209g/m² (0.04 ~ 0.26mm)
- Punched holes are not allowed within 35 mm (1.4 in.) of the vertical centerline of the document
- Other paper shall not be glued within 35 mm (1.4 in.) of the vertical centerline of the document
- No other paper should be attached to the paper being scanned (photos, receipts, etc.)

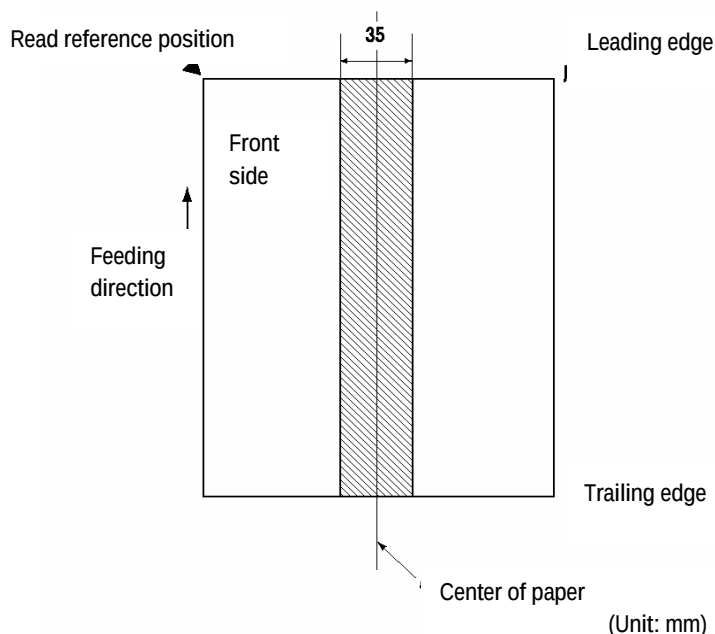
2) Check length

- Document length deviation: 1 % or less
- Punched holes are not allowed within 35 mm (1.4 in.) of the vertical centerline of the document

3) Check overlapping and length

- Paper weight: 31 ~ 209g/m² (0.04 ~ 0.26mm)
- Document length deviation: 1 % or less
- Punched holes are not allowed within 35 mm (1.4 in.) of the vertical centerline of the document
- Other paper shall not be glued within 35 mm (1.4 in.) of the vertical centerline of the document
- No other paper should be attached to the paper being scanned (photos, receipts, etc.)

When overlapping check is specified and glued paper or electro-statically charged paper is fed, a false multi feed may occur. Multi feeds may be detected erroneously depending on the condition of the documents.



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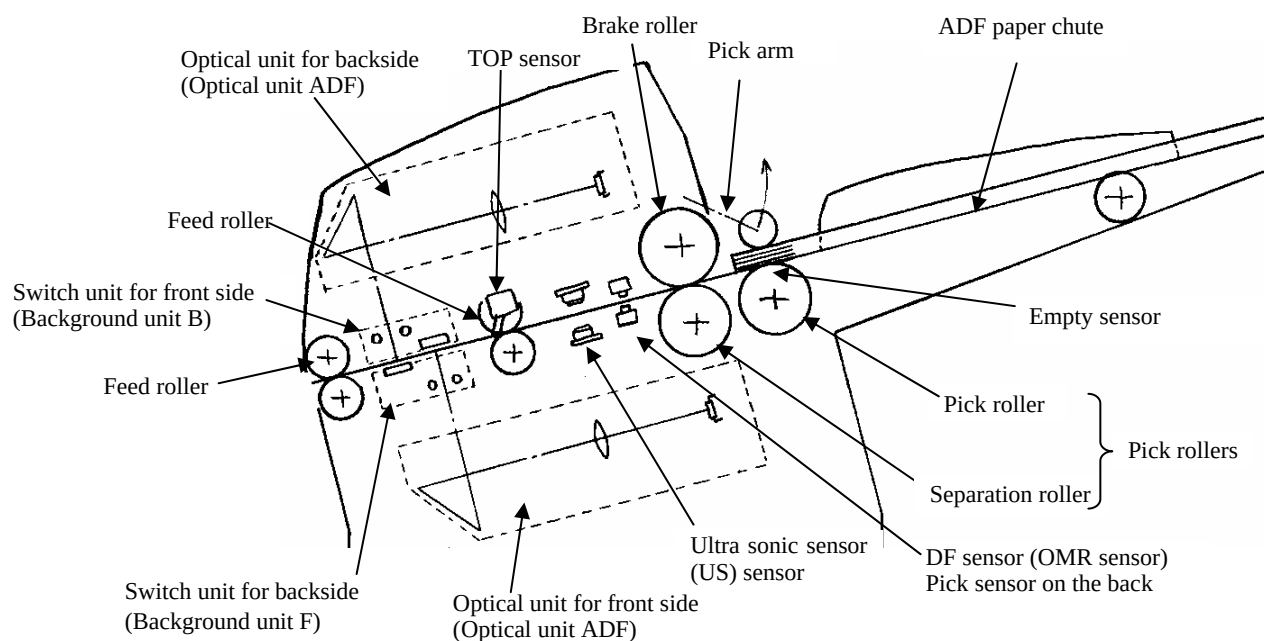
1.2 ADF Unit

1.2.1 ADF

(1) Paper separation

The Pick arm is usually raised except when scanning operation is performed. When the Empty sensor detects that documents are loaded on the ADF paper chute and PC starts scanning, the Pick arm presses documents onto the Pick roller to insure proper picking. The Pick roller rotates to send the lowest document to the ADF. Documents are separated respectively by the Separation roller and the Brake roller. The Pick sensor detects paper jams. The DF sensor detects whether there is notch on the leading edge of paper (Job separation sheet). The Ultrasonic sensor and the DF sensor detect when multifeed errors occur. The TOP sensor located at the Feed roller determines when to begin scanning. The front side of a document is scanned by the lower optical unit, and backside is scanned by the upper unit. The scanned documents are deposited on the stacker by the Feed rollers. When the Pick sensor detects the trailing edge of a document, the next document is picked.

The paper feeding unit also includes the Cover open sensor and Pick arm position detection sensor.



(2) Consumables

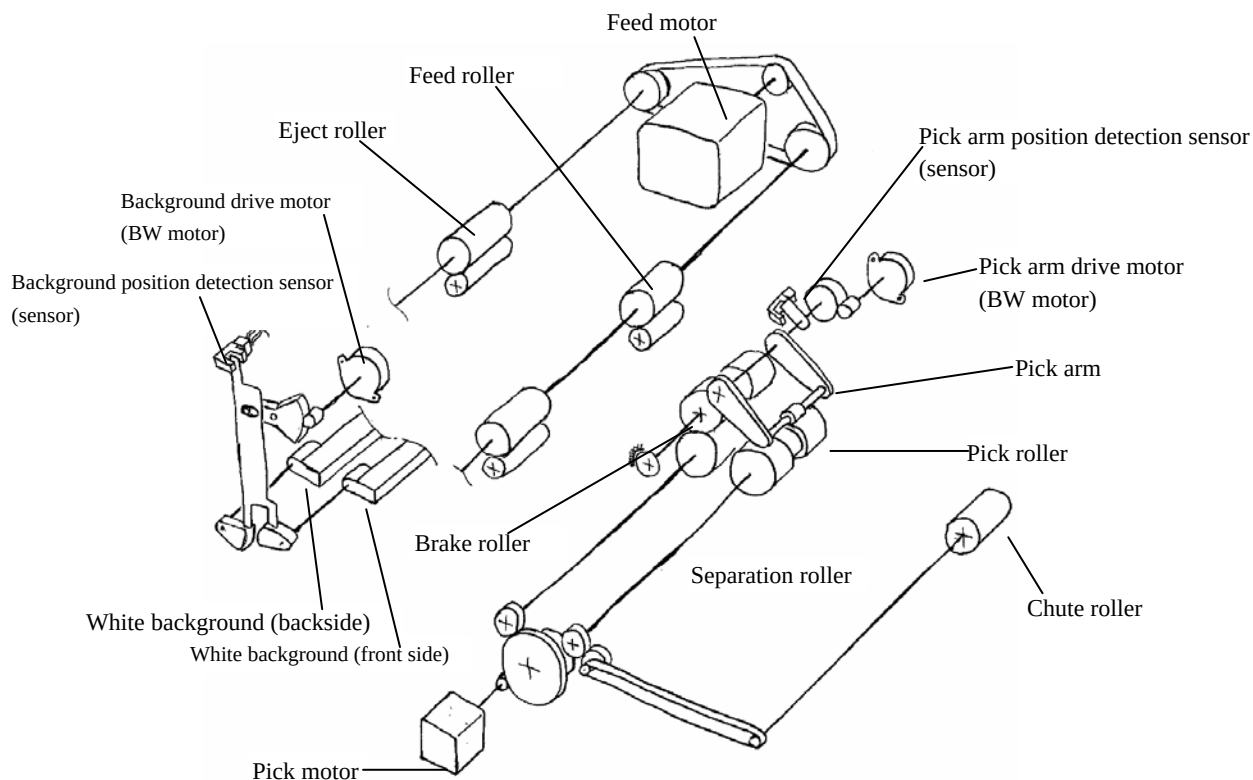
The Pick roller and Separation roller are included in the pick roller. The Brake roller is sold separately. These items are consumables and are the user's responsibility to replace (Refer to Section 7.3.1 for details).

The scanner supports two consumable counters, the brake roller counter and the pick roller counter. These counters indicate the number of sheets scanned since each consumable has been replaced. Users can check the counters from the "Scanners and Cameras" in Windows Control Panel or the Software Operation Panel on the PC or using the scanner built-in Maintenance mode. They can also reset the counters from these locations after the consumables have been replaced. (Refer to Section 7.3 for details.)

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(3) Motor drive system

The Pick roller, Separation roller and Chute roller are turned by the Pick motor. The Feed roller and Eject roller are turned by the Feed motor. The Pick arm and background are driven up and down by the respective BW motors. The motor drive circuit is located on the Control PCA. If abnormal electric current runs through the motor drive circuit, the current is cut off by the motor fuses located in the Control PCA.



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1.2.2 Reading Station

(1) Optical system

Documents shall be set in the ADF paper chute, front side face down. The front side of the document is scanned by the lower Optical unit in the ADF, and the backside of the document is scanned by the upper Optical unit in the ADF. These two optical units have the same parts number.

The image on the document is projected to a color CCD through a lens and mirror system and converted to image signals that are 10 bit per pixel at 600 dpi resolution.

(2) Light source and heater

The scanner uses two lamps (White cold cathode discharge lamp) for ADF front / ADF back respectively which lights the scanning area of front and back side in order to get sufficient CCD output. The lamp is turned ON or OFF by an inverter that is controlled by the Control PCA.

The life of the lamps is approximately 10,000 hours, which means the lamps last the life of the scanner.

The lamps have heaters and thermistors attached, which are controlled to stabilize the lamp temperatures while the power is supplied. The power of the lamps and heaters are cut OFF during sleep mode.

The ADF Optical units have two lamps with heaters respectively. To replace the lamps, the corresponding Background unit needs to be replaced.

(3) Scan controller

Before scanning a document, the scanner scans the white background of the scanning position and adjusts the gain of the CCD amplifier. If the CCD output does not reach a reference level after the gain adjustment, an Optical alarm is issued.

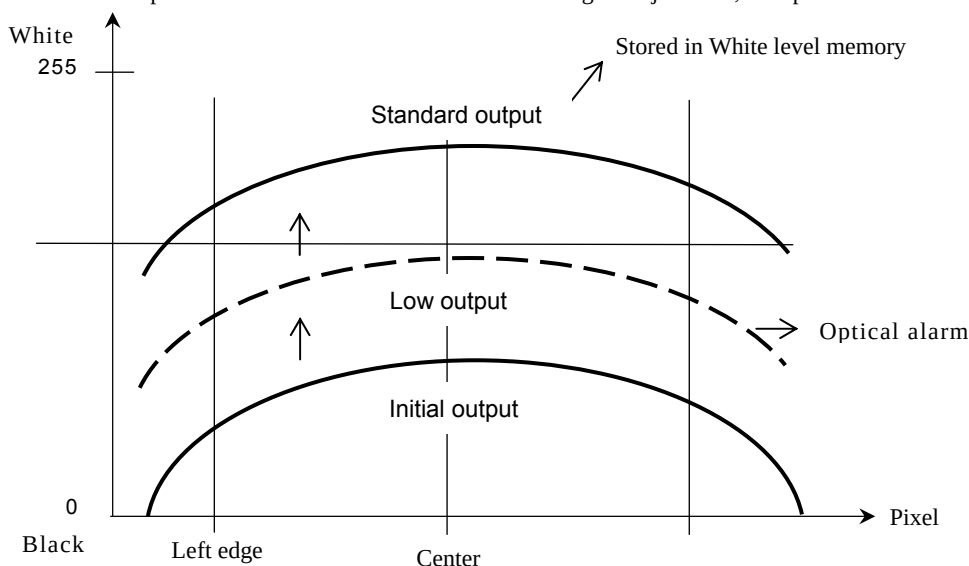


Figure 1.2.2 AGC (Automatic Gain Control)

When the gain adjustment is completed successfully, the scanner feeds the document to the scanning position at the speed that corresponds to the specified scanning resolution. The leading edge of the document is detected by the TOP sensor in front of the scanning position. The document is fed from the TOP sensor by some defined length for front and back side scanning (the length which determines sub-scanning offset), the scanner starts scanning the image. The scanner terminates the scan operation when the length specified from the host is scanned (Fixed size scanning) or when the TOP sensor detects the trailing edge of the document (Page end detection scanning).

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1.3 Controller

(1) Control PCA

The Control PCA controls the units in the block diagram below by 2 types of software, one for interface control (SDC) and another for mechanical control (MDC). The firmware can be updated through the SCSI/USB interface using the firmware update tool. Firmware version number can be confirmed in the procedure described in Section 6.1.7.

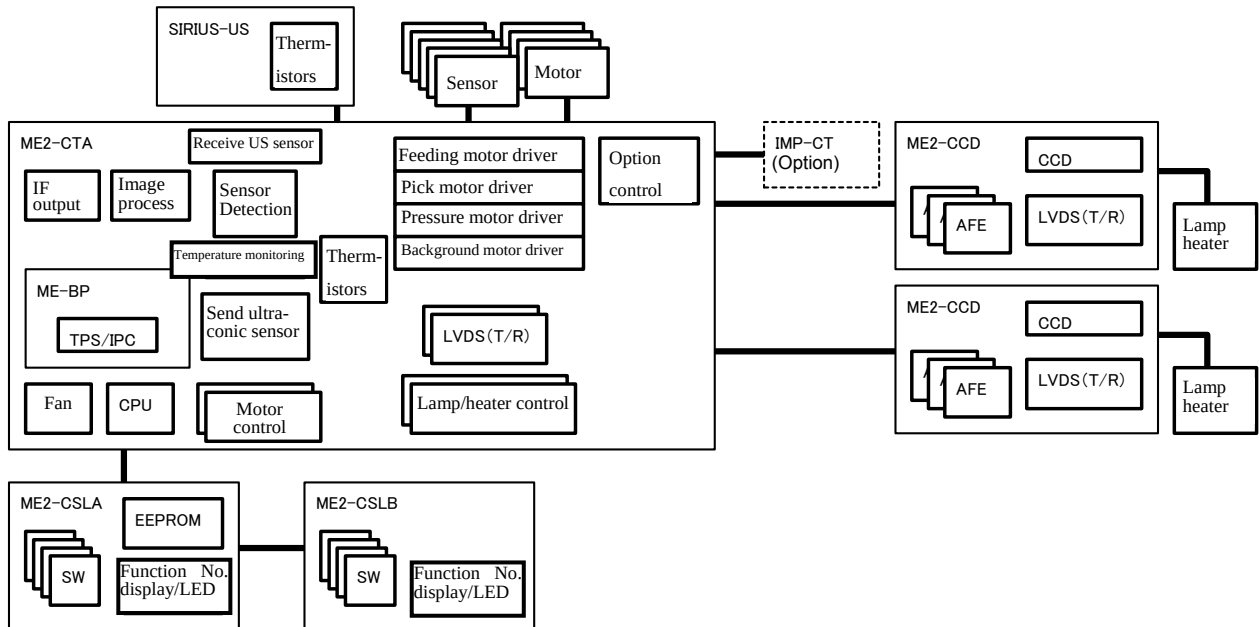


Figure 1.3 Function Block Diagram

The Control PCA includes the following connectors and a switch exteriorly.

- DC voltage input connector
- EXT connector (for Imprinter, option)
- SCSI connector (1)
- USB connector (1)
- SCSI ID setting rotary switch
- CGA board (SCSI connector x1, USB connector x1) **fi-6670A only**
- Connector for third party slot (for CGA option) **fi-6670 only**

If both the SCSI and USB cables are connected at the same time,

- SCSI is selected when SCSI selection phase is recognized first.
- USB is selected when USB H level VBUS signal is detected first.

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(2) Panel PCA

This scanner has two placement methods, one of which places the ADF paper chute at the right side, another places it at the left. For easy operation at either setting, two operator panels are available (Section 1.1.4 for the button and lamp allocation). Therefore, two Panel PCAs (Panel PCA A/Panel PCA B) are provided. Both have the same functions but only the Panel PCA A has the EEPROM that records the information below. When replacing the Panel PCA A with a new one, you need to **save** all the data stored in the EEPROM to the Control PCA temporarily (Section 6.2). Once the Panel PCA is replaced, the data that was copied to the Control PCA needs to be copied to the new Panel PCA A (Section 6.1.8).

- Magnification correction value for main/sub-scanning direction / Offset correction value for main/sub-scanning direction
- White level correction value
- Values of Brake roller counter and Pick roller counter
- Firmware version number, First date of the scanner operation, the number of documents scanned by ADF
- Remaining ink, Print cartridge counter (only when the Imprinter is installed)

(3) Sleep mode

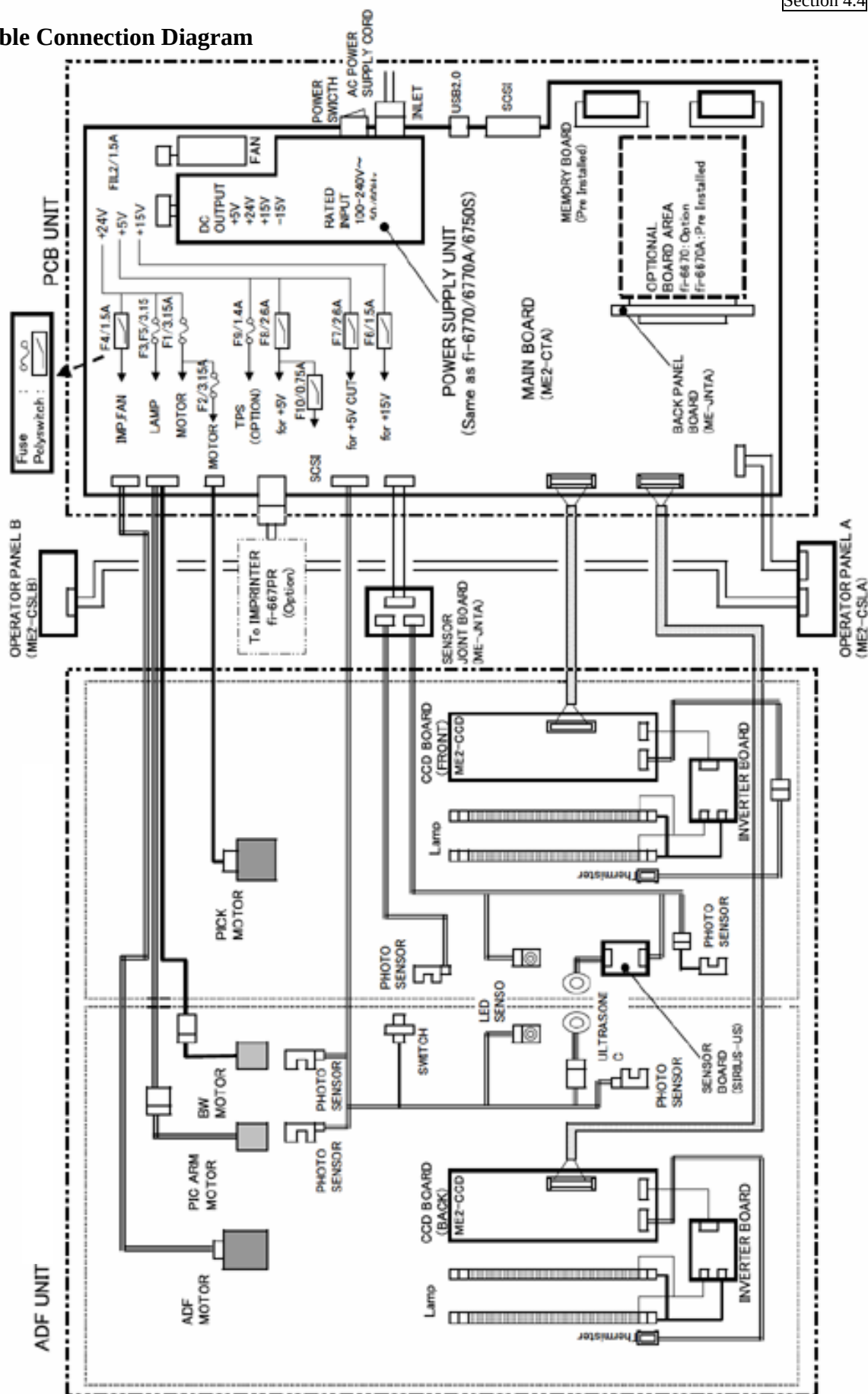
If a scan operation is not performed for over the specified period, the scanner automatically goes into the Sleep mode. This specified period is set at 15 minutes at the factory. However, you can change the period for this mode by the Software Operation Panel in Section 7.1.3. During this mode, the lamp heaters turn off and the Function Number display is turned OFF, only the power LED remains ON.

Perform one of the operations below to return from the Sleep mode.

- Set document on the ADF paper chute.
- Press either of buttons on the operator panel.
- Execute a command from the scanner driver.

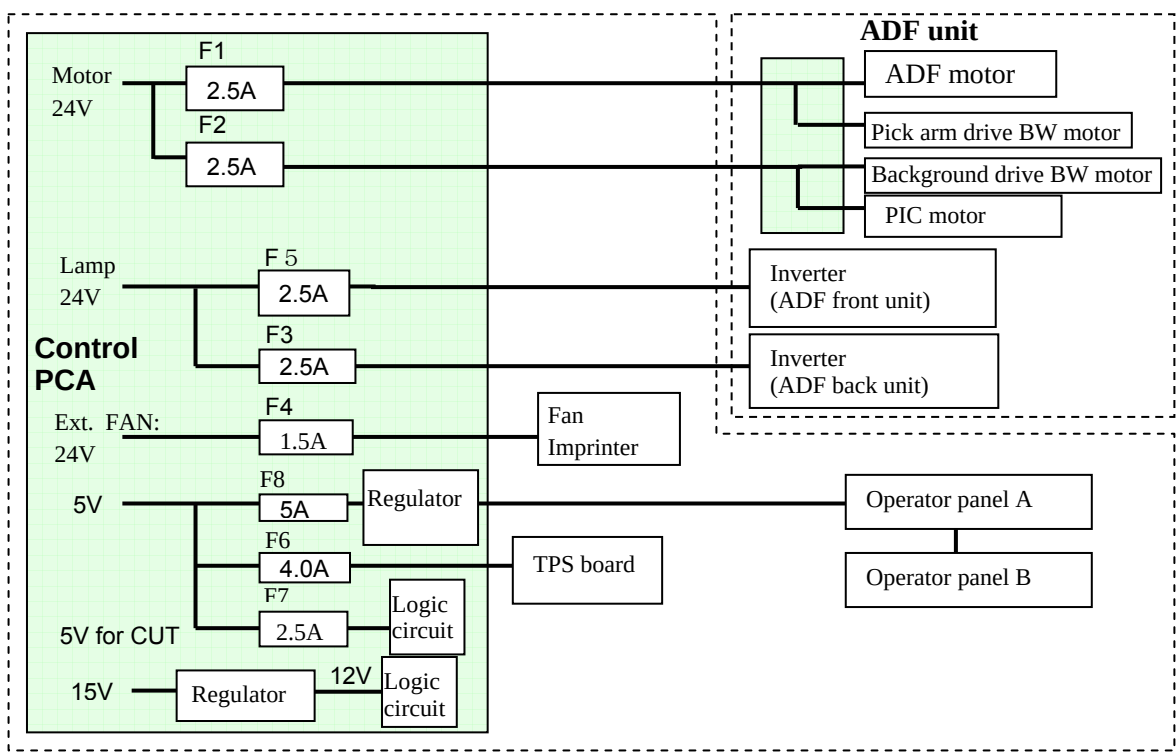
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						Drawing No.	P1PA03576—B50X/6		
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1.4 Cable Connection Diagram



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1.5 Diagram of Power Supply System



The Pin assignment of the connector between Power supply and Control PCA (CN15) is as follows.

CONNECTOR(CN15)	PIN 1	+24V
	PIN 2	GND
	PIN 3	-15V
	PIN 4	GND
	PIN 5	+15V
	PIN 6	ON/OFF SIGNAL
	PIN 7	+5V
	PIN 8	+5V
	PIN 9	GND
	PIN 10	GND

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Chapter 2 Installation

2.1 Unpacking the Scanner

⚠ CAUTION

Injury: This scanner weighs 17kg, 37.5lb. (Shipping weight: 25kg, 55.1lb.). One person lifting the scanner may cause personal injury.

Follow the procedure below to unpack the scanner. Make sure that all the accessories are included in the package.

- (1) Cut the tape and open the box.
- (2) Remove the appended goods box.
- (3) Remove the cushions TF and TR, and then remove the scanner from the box.
- (4) Remove the scanner from the polyethylene bag.
- (5) Remove all the accessories and remove the tape protecting the scanner.

The following table lists the packaging configuration.

No.	Items	Quantity
1	Appended goods box (Items included: ADF paper chute, stacker, CD-ROM, Manual, etc.)	1
2	Cushion TR	1
3	Cushion TF	1
4	Scanner in Polyethylene bag	1
5	Cushion BR	1
6	Cushion BL	1
7	Lower package box	1

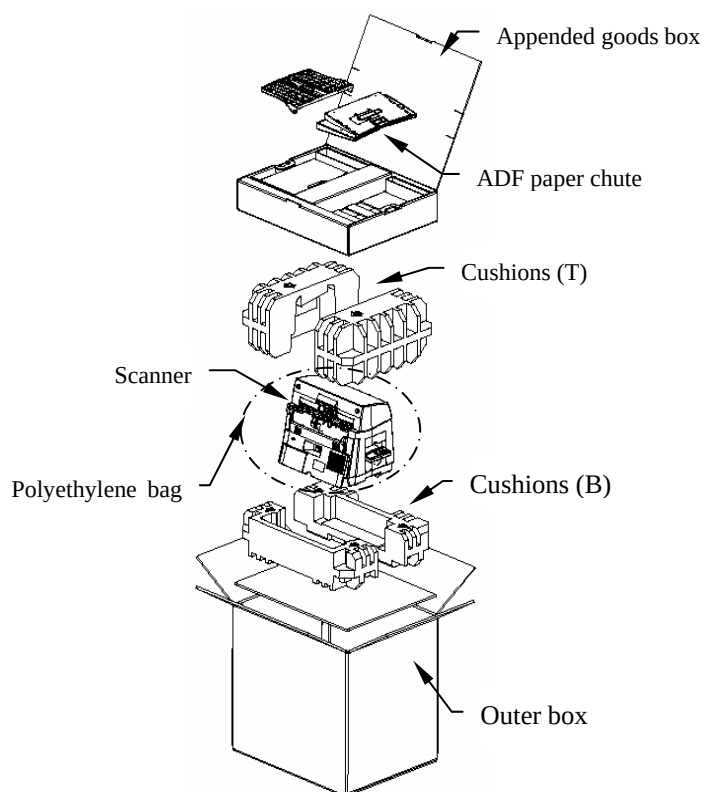


Figure 2.1 Packaging configuration

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2.2 Installing the Scanner

2.2.1 For Safety Installation

Before installing the scanner, read the following precautions carefully to avoid scanning trouble.

Refer to Section 1.1.3 “Environmental Specification” for information on input power and Section 1.1.5 for outer dimensions.

- Install the scanner away from strong magnetic fields and other sources of noise.
- Do not install the scanner near heating apparatus or in the direct sunlight.
- Install the scanner in a location which is level and subject to minimal vibration.
- Do not install the scanner in locations subject to humidity and dust.
- Do not block the ventilation ports.
- Protect the scanner from static electricity.
- Use attached AC Cable, and use proper AC voltage.

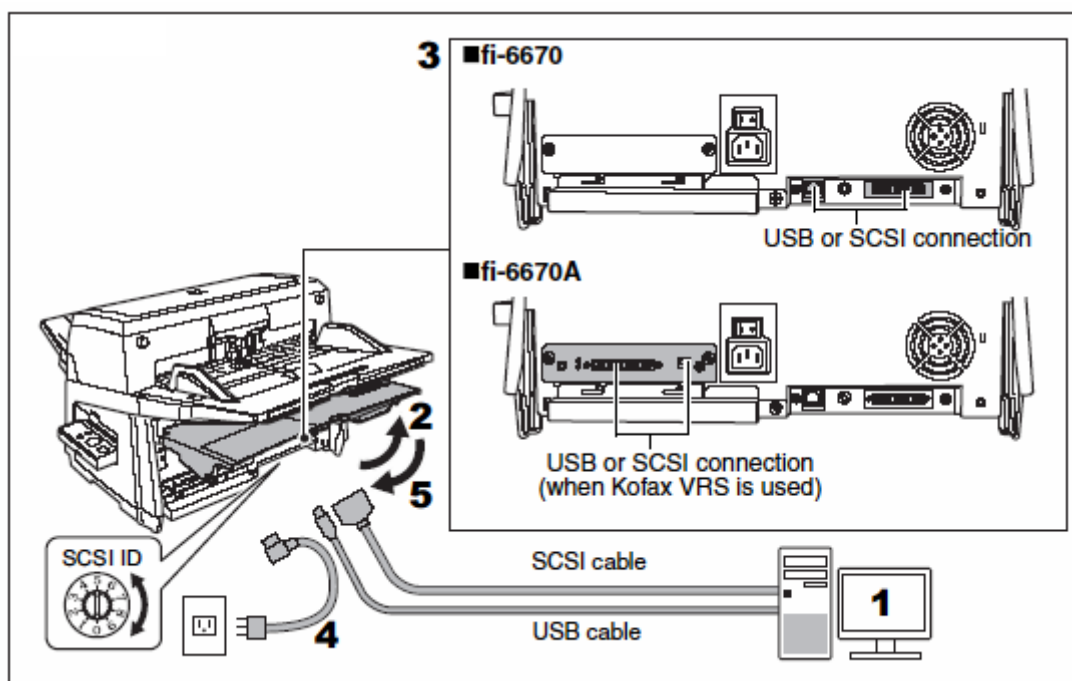
NOTICE

Make sure the rubber pads on the bottom of the scanner are level on the table or desk.

2.2.2 Installation

Install the scanner by following the procedures below.

- 1) Place the scanner at its installation site.
- 2) Attach the Chute ASSY and the Stacker ASSY on the scanner (Section 5.7.1, 5.7.3).
- 3) Open the Cable Cover and connect the scanner to the PC either with a USB or SCSI cable. Refer to Section 1.1.4 for the positions of the connection ports.



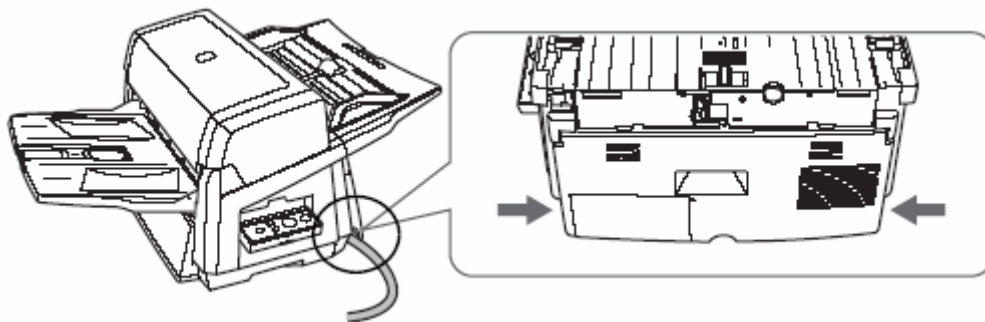
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- Note 1 Use either the USB interface or the SCSI interface.
- Note 2 If Kofax VRS is not used on the fi-6670A, connect the cable to USB Connector 1 or SCSI Connector 1 on the scanner.
- Note 3 When using the USB interface:
- Be sure to use the USB cable which comes as an accessory with this scanner.
 - When connecting to an USB hub, use the first stage USB hub that is closest to the computer. If you use the second or later hub stages, the scanner may not operate correctly.
 - If you connect the scanner with USB 2.0, it is required that the USB port and the Hub be compliant with USB 2.0. The scanning speed slows down when you connect the scanner with USB 1.1.
- Note 4 When using the SCSI interface, the following SCSI cable and SCSI card must be purchased.
- **SCSI cable:**
Use a SCSI cable whose connector on the computer side mates the connector on the SCSI card attached to your computer.
On the scanner side, use either of the following SCSI cable types depending on the connector (1 or 2) used:
SCSI Connector 1: 50-pin high-density type
SCSI Connector 2: 68-pin high-density type
 - **SCSI card:**
Find the recommended SCSI card information on the Fujitsu website (FAQ):
<http://www.fujitsu.com/global/support/computing/peripheral/scanners/scsi/>
 - In a SCSI daisy chain configuration, connect the scanner so that it is the terminated device.
 - The SCSI ID initially set at the factory is [5]. If the SCSI ID of another SCSI device is set to the same ID, change the scanner's SCSI ID to either one of [0] through [7].

- 4) Connect the Power cable to the Power Connector of your scanner to the power outlet.

NOTICE

1. Be sure to use the supplied power cable. Use of other power cables may cause electrical shock or malfunction.
 2. Do not use the supplied power cable for other products. Doing so may cause electrical shock or malfunction.
- 5) Close the Cable Cover. (Let the cables out from the side slots of the scanner.



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6) Install the bundled software.

The following scanner drivers and application software are included with the scanner.

- FUJITSU TWAIN 32 (Scanner driver)
- FUJITSU ISIS (Scanner driver)
- Software Operation Panel (For configuring the scanning operation and consumable control)
- Error Recovery Guide (When a scanner error occurs, a guide to resolve the error can be displayed on the screen.)
- ScandAll PRO (demo version) (FUJITSU TWAIN 32/ISIS scanner driver needs to be installed)
- QuickScan Pro™ (trial) (FUJITSU ISIS scanner driver needs to be installed)
- Scan to Microsoft SharePoint (Software for uploading the images scanned by ScandAll PRO onto SharePoint site)
- Image Processing Software Option * (Software option for binary-image-processing to the scanned images)
- Kofax VRS * (Software option for creating high-quality images with an easy operation)
- Manual
- Adobe Acrobat 8.1 Standard

*: Enclosed with fi-6670A.

Installing the TWAIN 32 / ISIS scanner driver automatically installs the scanner configuration program (Software Operation Panel) simultaneously.

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Chapter 3 Maintenance Parts

04

No.	Description	Part Number	Quantity				Old/New	Replacement Procedure	Appearance	Remarks
			fi-6670		fi-6670A					
0	ADF UNIT	PA03576-D820	1		1		O	5.9.1	3.36	Includes ADF FIX UNIT and ADF REV UNIT. See the Note *1 when using Old or New part.
		PA03576-D880	1		1		N			
1	ADF FIX UNIT	PA03576-D821	1		1			5.9.2	3.1	
2	OPTICAL UNIT ADF	PA03576-D805		1		1		5.12.1	3.19	
3	BACK GROUND UNIT F	PA03576-D801		1		1		5.12.4	3.3	
4	INVERTER	PA03338-D815		1		1		5.12.2	3.5	
5	US SENSOR	PA03334-F902		1		1		5.10.3	3.6	For scanning the front side
6	US PCA	PA03338-K906		1		1		5.10.4	3.7	
7	SENSOR	PA03338-D816		1		1		5.10.5	3.8	For detecting hopper empty
8	PICK SENSOR	PA03338-D845		1		1		5.10.2	3.9	
9	DF SENSOR	PA03338-D817		1		1		5.10.8	3.10	Black (of black/transparent per set)
10	PICK MOTOR	PA03576-D803		1		1		5.12.3	3.12	
11	HK RING ME	PA03338-D941		1		1		5.12.5	3.13	4 pieces per set
12	PANEL UNIT A	PA03576-D824	1		1			5.7.4	3.29	
13	PANEL PCA A	PA03576-D825		1		1		5.7.4	3.30	
14	PANEL UNIT B	PA03576-D826	1		1			5.7.5	3.31	
15	PANEL PCA B	PA03576-D827		1		1		5.7.5	3.32	
16	ADF REV UNIT	PA03576-D822	1		1		O	5.9.2	3.2	See the Note *1 when using Old or New part.
		PA03576-D881	1		1		N			
17	OPTICAL UNIT ADF	PA03576-D805		1		1		5.11.2	3.19	
18	BACK GROUND UNIT B	PA03576-D802		1		1		5.11.8	3.4	
19	INVERTER	PA03338-D815		1		1		5.11.1	3.5	
20	US SENSOR	PA03334-F902		1		1		5.10.6	3.6	For scanning the backside
21	SENSOR	PA03338-D816		2		2		5.11.3 5.11.6	3.8	For detecting pick arm position For detecting background position
22	DF SENSOR	PA03338-D817		1		1		5.10.8	3.10	Transparent (of black/transparent per set)
23	GUIDE S ASSY	PA03576-D815		1		1		5.10.1	3.11	
24	BW MOTOR	PA03338-D822		2		2		5.11.3 5.11.5	3.14	
25	FEED MOTOR	PA03576-D804		1		1		5.11.4	3.15	
26	BELT ADF	PA03338-D915		1		1		5.11.4	3.16	
27	TOP SENSOR	PA03338-D826		1		1		5.10.7	3.17	
28	SENSOR OP	PA03338-D917		1		1		5.11.7	3.18	

*1: The "New" maintenance part has a ball bearing for the shaft bearing at the Feed roller side.

This part is applied to the scanner with version "A2" and later.

When replacing the part on the scanner with version "A2" or later, be sure to replace it with the "New" part.

The "Old" part is compatible with the "New" part as follows:

Old → New: Compatible, New → Old: Not compatible

[How to confirm the scanner version]

The last number that is deleted with the double strike-through is the scanner version.

The illustration of the manufacturing label indicates the version "A2".

SER.NO. ***** 35kg
DATA ****_**

100-240V~ 2.0-0.9A 50/60Hz 1 φ

A	0	1	2	3	4	5	6	7	8	9
B	0	1	2	3	4	5	6	7	8	9

[Barcode Print Area]

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<Maintenance Parts - Cont'd)

No.	Description	Part Number	Quantity				Old/New	Replacement Procedure	Appearance	Remarks
			fi-6670		fi-6670A					
29	CONTROL PCA	PA03576-D823	1		1			5.8.4	3.20	
30	DIMM	PA03576-D839		2		2		5.8.7	3.35	
31	FUSE 1	PA03576-D841		1		1		5.8.5	3.22	Rated current: 630mA Nennstrom: 630 mA *3 05
32	FUSE 2	PA03576-D842		3		3		5.8.5	3.23	Rated current: 2.5A Nennstrom: 2,5 A *4 05
33	FUSE 3	PA03576-D843		1		1		5.8.5	3.24	Rated current: 4.0A Neestrom: 4,0 A *5 05
34	(Reserved)									
35	POWER SUPPLY	PA03338-D840	1		1			5.8.2	3.25	
36	FAN ASSY	PA03338-D847	1		1			5.8.3	3.33	
37	CGA BOARD	PA03576-K801	(1)		1			5.8.6	3.34	*2
38	DIMM	PA03576-D839	(1)		1			5.8.6	3.35	*2
39	STACER ASSY	PA03576-D808	1		1			5.7.3	3.26	
40	CHUTE ASSY	PA03573-D809	1		1			5.7.1	3.27	
41	CHUTE ROLLER	PA03338-D933		1		1		5.7.2	3.28	

*2: If the CGA option [fi-677CGA] is installed on the fi-6670, order the same part.

05

*3: Silk-printed number on the Fuse for fi-6670X: F2

Use the specified Fuse only.

*4: Silk-printed numbers on the Fuses for fi-6670X: F1, F3, F5

Use the specified Fuses only.

*5: Silk-printed number on the Fuse for fi-6670X: F9

Use the specified Fuse only.

*3: Seidendrucknummer auf der Sicherung für fi-6670X: F2

Verwenden Sie nur die angegebene Sicherung.

*4: Seidendrucknummer auf den Sicherungen für fi-6670X: F1, F3, F5

Verwenden Sie nur die angegebenen Sicherungen.

*5: Seidendrucknummer auf der Sicherung für fi-6670X: F9

Verwenden Sie nur die angegebene Sicherung.

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3.1 ADF FIX Unit

Description	Parts No.	Remarks
ADF FIX UNIT	PA03576-D822	The following parts are included: Optical unit ADF, Background unit F, Inverter, US sensor, US PCA, Sensor (for detecting hopper empty), Pick sensor, DF sensor, Pick motor, HK Ring ME White level adjustment sheet and Ultrasonic sensor adjustment sheet are enclosed. After replacing this part, perform the sensor test, sub-scanning magnification adjustment, offset adjustment, white level adjustment and ultrasonic sensor adjustment, and reset the consumable counters.



3.2 ADF Rev Unit

Description	Parts No.	Remarks
ADF REV UNIT	04 PA03576-D822 (Old) PA03576-D881 (New)	The following parts are included: Optical unit ADF, Background unit B, Inverter, US sensor, Sensor (for detecting pick arm position and background position), DF sensor, Guide S ASSY, BW motor, Feed motor, Belt ADF, TOP sensor, Sensor OP The following adjustment sheets and labels are enclosed. [Adjustment sheet] - White level adjustment sheet - Ultrasonic sensor adjustment sheet [Manufacturing label] - Label for fi-6670 - Label for fi-6670A After replacing this part, perform the sensor test, sub-scanning magnification adjustment, offset adjustment, white level adjustment and ultrasonic sensor adjustment, and reset the consumable counters. 04 The “New” maintenance part has a ball bearing for the shaft bearing at the Feed roller side. This part is applied to the scanner with version “A2” and later. When replacing the part on the scanner with version “A2” or later, be sure to replace it with the “New” part. The “Old” part is compatible with the “New” part as follows: Old → New: Compatible, New → Old: Not compatible



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3.3 Back Ground Unit F

Description	Parts No.	Remarks
BACK GROUND UNIT F	PA03576-D801	Includes the lamp for front side scanning and the background for backside scanning. White level adjustment sheet is enclosed. After replacing this part, perform the offset adjustment and white level adjustment.



3.4 Back Ground Unit B

Description	Parts No.	Remarks
BACK GROUND UNIT B	PA03576-D802	Includes the lamp for backside scanning and the background for front side scanning. White level adjustment sheet is enclosed. After replacing this part, perform the offset adjustment and white level adjustment.



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3.5 Inverter

Description	Parts No.	Remarks
INVERTER	PA03338-D815	After replacing this part, perform the white level adjustment.



3.6 US Sensor

Description	Parts No.	Remarks
US SENSOR	PA03576-F902	Ultrasonic sensor adjustment sheet is enclosed. After replacing this part, perform the ultrasonic sensor adjustment.



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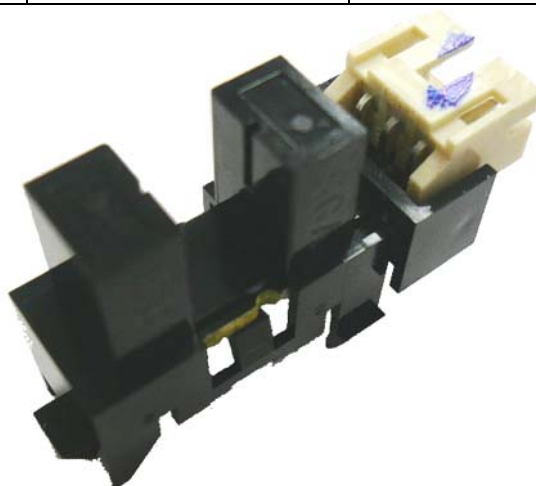
3.7 US PCA

Description	Parts No.	Remarks
US PCA	PA03334-K906	Ultrasonic sensor adjustment sheet is enclosed. After replacing this part, perform the ultrasonic sensor adjustment.



3.8 Sensor

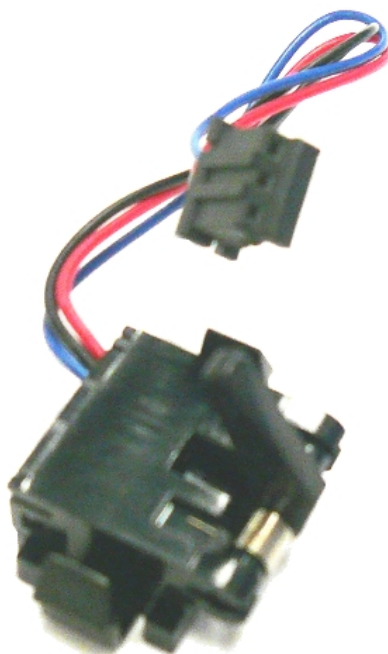
Description	Parts No.	Remarks
SENSOR	PA03338-D816	After replacing this part, perform the sensor test.



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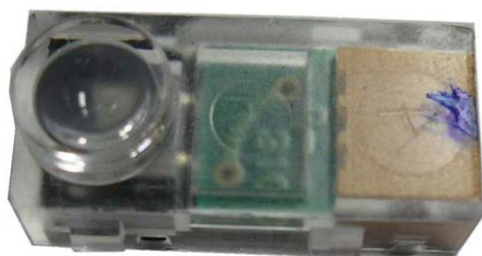
3.9 Pick Sensor

Description	Parts No.	Remarks
PICK SENSOR	PA03338-D845	After replacing this part, perform the sensor test.



3.10 DF Sensor

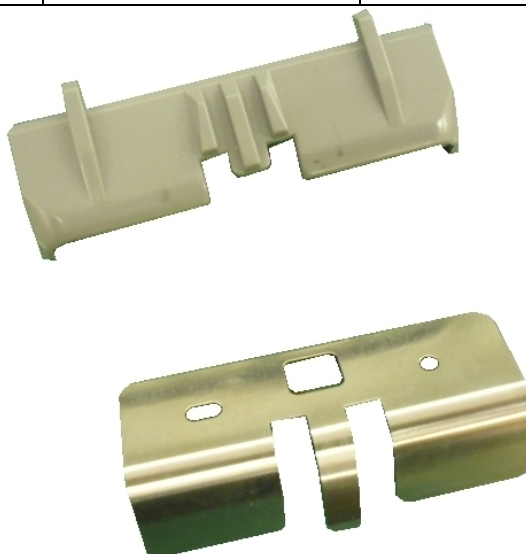
Description	Parts No.	Remarks
DF SENSOR	PA03338-D817	2 pieces are a pair.



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3.11 Guide S ASSY

Description	Parts No.	Remarks
GUIDE S ASSY	PA03576-D815	



3.12 Pick Motor

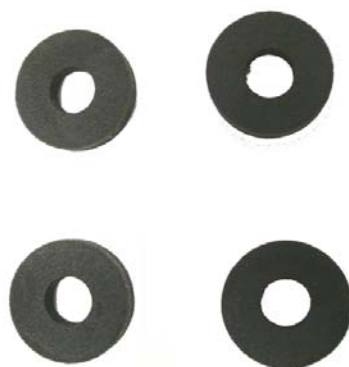
Description	Parts No.	Remarks
PICK MOTOR	PA03576-D803	After replacing this part, perform the sub-scanning magnification adjustment.



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03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				Drawing No.	P1PA03576—B50X/6				
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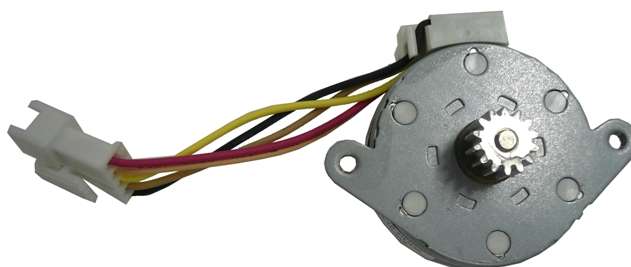
3.13 HK Ring ME

Description	Parts No.	Remarks
HK RING ME	PA03338-D941	4 pieces per set After replacing this part, perform the sub-scanning magnification adjustment and offset adjustment.



3.14 BW Motor

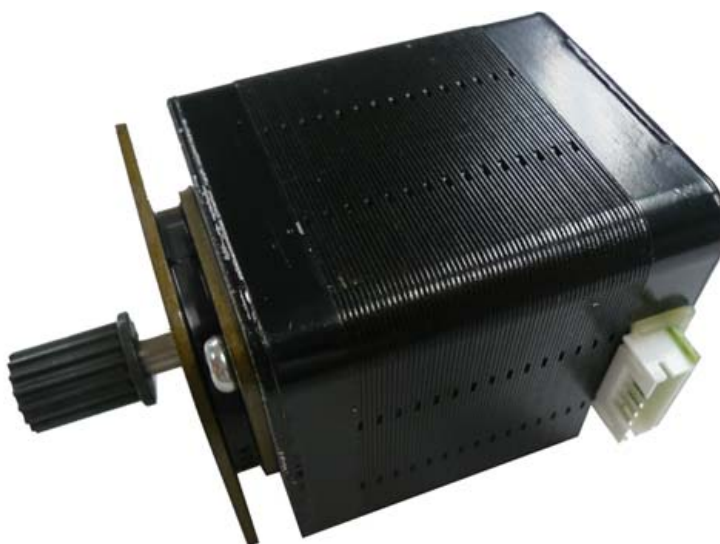
Description	Parts No.	Remarks
BW MOTOR	PA03338-D822	After replacing this part, perform the sensor test.



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04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.					
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6			
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3.15 Feed Motor

Description	Parts No.	Remarks
FEED MOTOR	PA03576-D804	After replacing this part, perform the sub-scanning magnification adjustment and offset adjustment.



3.16 Belt ADF

Description	Parts No.	Remarks
BELT ADF	PA03338-D915	After replacing this part, perform the sub-scanning magnification adjustment and offset adjustment.



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04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
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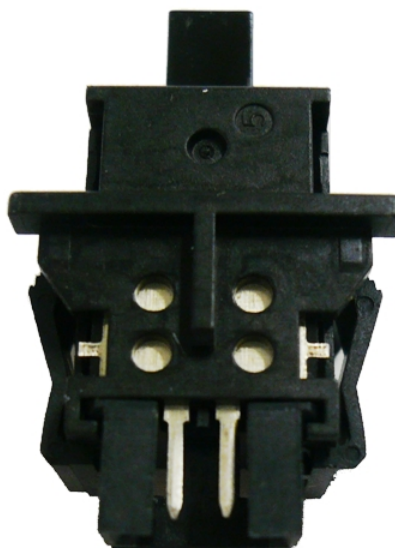
3.17 Top Sensor

Description	Parts No.	Remarks
TOP SENSOR	PA03338-D826	After replacing this part, perform the sub-scanning magnification adjustment and offset adjustment.



3.18 Sensor OP

Description	Parts No.	Remarks
SENSOR OP	PA03338-D917	After replacing this part, perform the sensor test.



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04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
						Drawing No.	P1PA03576—B50X/6		
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3.19 Optical Unit ADF

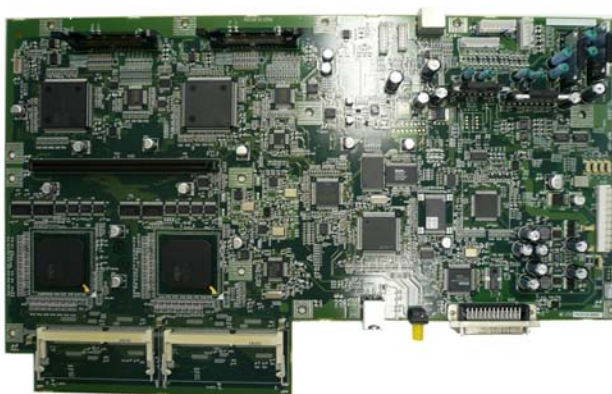
Description	Parts No.	Remarks
OPTICAL UNIT ADF	PA03576-D805	The following parts are enclosed. - White level adjustment is enclosed. - OPT SPACER B (Use it when the one for backside scanning is lost) After replacing this part, perform the offset adjustment and white level adjustment.



3.20 Control PCA

Description	Parts No.	Remarks
CONTROL PCA	PA03576-D823	Includes the replaceable fuses. Use the specified Fuses only. Verwenden Sie nur die angegebene Sicherung

05



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04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
						Drawing No.	P1PA03576—B50X/6		
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3.21 (Reserved)

3.22 Fuse 1

Description	Parts No.	Remarks
FUSE 1	PA03576-D841	Rated current: 630mA "F2" Nennstrom: 630 mA "F2"

05



3.23 Fuse 2

Description	Parts No.	Remarks
FUSE 2	PA03576-D842	Rated current: 2.5A "F1, F3, F5" Nennstrom: 2,5 A "F1, F3, F5"

05



3.24 Fuse 3

Description	Parts No.	Remarks
FUSE 3	PA03576-D843	Rated current: 4.0A "F9" Nennstrom: 4,0A "F9"

05



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03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.					
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3.25 Power Supply

Description	Parts No.	Remarks
POWER SUPPLY	PA03338-D840	



3.26 Stacker ASSY

Description	Parts No.	Remarks
STACKER ASSY	PA03576-D808	



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03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6		
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3.27 Chute ASSY

Description	Parts No.	Remarks
CHUTE ASSY	PA03576-D809	Including Chute roller.



3.28 Chute Roller

Description	Parts No.	Remarks
CHUTE ROLLER	PA03338-D933	



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03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6		
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						APPR.	I.Fujioka		

3.29 Panel Unit A

Description	Parts No.	Remarks
PANEL UNIT A	PA03576-D824	Includes Section 3.30 (Panel PCA A). EEPROM data have to be saved before this unit is replaced and restored after replacement.



3.30 Panel PCA A

Description	Parts No.	Remarks
PANEL PCA A	PA03576-D825	There is a sticker of "A" on this PCA to show that this is Panel PCA A. EEPROM data have to be saved before this unit is replaced and restored after replacement.



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04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.					
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6			
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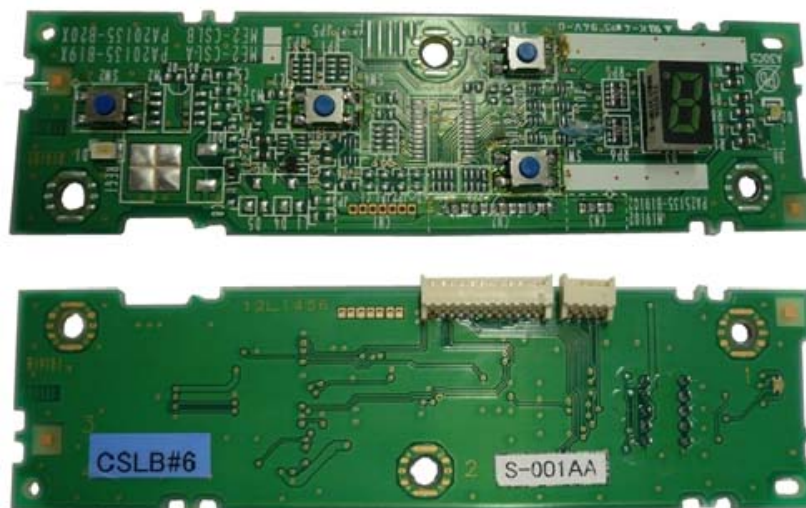
3.31 Panel Unit B

Description	Parts No.	Remarks
PANEL UNIT B	PA03576-D826	Includes Section 3.32 (Panel PCA B).



3.32 Panel PCA B

Description	Parts No.	Remarks
PANEL PCA B	PA03576-D827	There is a sticker of “B” on this PCA to show that this is Panel PCA B.



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04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.			
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		P1PA03576—B50X/6		
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3.33 Fan ASSY

Description	Parts No.	Remarks
FAN ASSY	PA03338-D847	



3.34 CGA Board

Description	Parts No.	Remarks
CGA BOARD	PA03576-K801	For fi-6670A only DIMM is NOT installed.



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04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
						Drawing No.	P1PA03576—B50X/6		
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3.35 DIMM

Description	Parts No.	Remarks
DIMM	PA03576-D839	Two DIMM's are installed (standard). One more DIMM is installed on the CGA board on fi-6670A .

Model name	The number of DIMM's on Control PCA	The number of DIMM's on CGA Board	Total	Remarks
fi-6670	2	Not in use	2	CGA board is not installed on fi-6670 as standard, but fi-677CGA can be installed as an option.
fi-6670A	2	1	3	



3.36 ADF Unit

Description	Parts No.	Remarks
ADF UNIT	04 PA03576-D820 (Old) PA03576-D880 (New)	ADF FIX UNIT and ADF REV UNIT are included. White level adjustment sheet and Ultrasonic sensor adjustment sheet are enclosed. 04 The "New" maintenance part has a ball bearing for the shaft bearing at the Feed roller side. This part is applied to the scanner with version "A2" and later. When replacing the part on the scanner with version "A2" or later, be sure to replace it with the "New" part. The "Old" part is compatible with the "New" part as follows: Old → New: Compatible, New → Old: Not compatible



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04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.							
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.			Drawing No.	P1PA03576—B50X/6			
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Chapter 4 Troubleshooting

This section describes the self-diagnostic functions of the scanner, temporary errors and detection algorithms, and how to troubleshoot them.

4.1 Operator panel display sequence at power-on

The following display is shown during initial processing (self-diagnostics).

Function No. Display	Power LED	Check LED	Description
	ON	OFF	Displays “8” without blinking. Immediately after power-on, the scanner turns all the segments ON.

When the initial processing starts, the following is displayed.

Function No. Display	Power LED	Check LED	Description
	ON	OFF	Displays “P” without blinking. Indicates the scanner is currently in initial processing (self-diagnostics).

When the intensity of the lamp becomes near the reference value, the following is displayed.

Function No. Display	Power LED	Check LED	Description
	ON	OFF	Displays “0” without blinking. Indicates the light intensity of the lamp almost reaches the reference value.

When the initial processing terminates properly, the following is displayed.

Function No. Display	Power LED	Check LED	Description
	ON	OFF	Displays default Function No. without blinking. Indicates the scanner is in ready state.

The Function No. is incremented by 1 every time the **Function** button is pressed. After Function No. 9 is displayed, the number changes to “C” and then returns to “0”.

Any error at initial processing (self-diagnosis) appears on the Function Number Display.

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04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.			
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4.2 Temporary Errors and Alarms

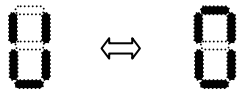
4.2.1 Temporary Errors

Temporary errors occur during scanning operation and can be remedied by the operator. They are displayed on the PC screen through the driver or on the operator panel.

The display and detection algorithm of the temporary errors are described below.

Temporary error display

When a temporary error occurs, the scanner displays the followings:

Function No. Display	Power LED	Check LED	Description (supplement)
	ON	ON (orange)	Displays "U" or "J" and an error number (0 ~ 9) alternately. Example) When error "U0" occurs, the display sequence is: "U" → "SP" → "0" → "SP" * "SP" signifies "Light off: Displays nothing." The interval of the display changes is about 0.5 second.

When **Scan/Stop** or **Send to** button is pressed while an error is displayed, the Function Number display returns to the "Ready" status.

4.2.2 Alarms

Alarms require maintenance by an authorized service person. The following table shows the display and detection algorithm for alarms. The alarms are displayed on a PC screen and/or on the operator panel (Function Number display).

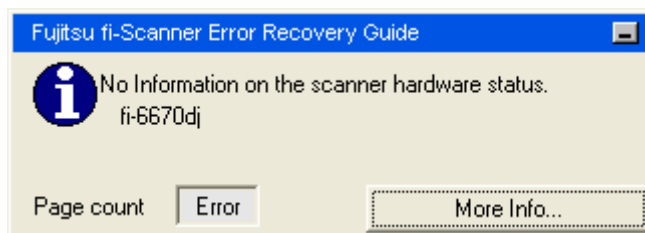
When an alarm occurs, the scanner displays the followings on the operator panel:

Function No. Display	Power LED	Check LED	Description (supplement)
	ON	ON (orange)	Displays "A," "C," "E," "F," "H," or "L" and an error number (0 ~ 9) alternately. Example) When error "E0" occurs, the display sequence is: "E" → "SP" → "0" → "SP" * "SP" signifies "Light off: Displays nothing." The interval of the display changes is about 0.5 second.

When **Scan/Stop** or **Send to** button is pressed while an error is displayed, the Function Number display returns to the "Ready" status.

4.2.3 Error Recovery Guide

If the application "Error Recovery Guide" (Section 2.2.2) is installed in the PC, the corresponding error name and error code are displayed on the PC screen when any error or scanner alarm comes up.



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4.3 Troubleshooting

When a temporary error or an alarm occurs, find the troubleshooting procedure from the list in this section and go to the related section for maintenance. Before starting the troubleshooting, get the following information from your customer to understand whether the error is scanner-related or system-related.

- Is the scanner operated correctly?
- Are the fault symptoms reproducible by some setting of the driver?
(Check if the target scanner causes the same error by connecting with other computer system.)

Following table lists the case of troubleshooting described later in this section.

Scanner section

[Category: Device]

Error description	Related section	Error Recovery Guide message
Scanner does not turn ON. (No display on the operator panel)	4.3.1	---
Scanning does not start.	4.3.2	---
Scanned image is distorted.	4.3.3	---

[Category: Image]

Error description	Related section	Error Recovery Guide message
Resolution or gradation of scanned image is unsatisfactory.	4.3.4	---
Too much jitter on scanned image	4.3.5	---
Scanned image is misaligned	4.3.6	---
Magnification of scanned image is incorrect	4.3.7	---
Vertical streaks appear in scanned image	4.3.8	---
Calibrating white level of scanned image	4.3.9	---

[Category: Temporary error]

Function No.Display Check LED	Error description	Related section	Error Recovery Guide message
None ---	“No paper on the ADF paper chute”	4.3.10	No Document in Hopper [038003 20]
J1 ON	Paper jam	4.3.11	Top sensor jam [038001 31] Pick error [038001 50] Eject jam [038001 36] Pick sensor jam [0380013A]
J9 ON	Paper jam		Dirty roller [038001 39]
J2 ON	Multi feed	4.3.12	Multifeed Detected (Length) [038007 56] Multifeed Detected (US sensor) [038007 58]
U4 ON	ADF cover open	4.3.13	Open Cover [038002 , 40]

[Category: Alarm]

Function No.Display Check LED	Error description	Related section	Error Recovery Guide message
C0 ON	Memory (LSI) alarm	4.3.29	LSI1(VDCC3)Memory Read-Write error [044400 , E5] LSI2(Pisces) Memory Read-Write error [044400 , E6]
C0 ON	LSI alarm		LSI1(VDCC3) [044400 , E9] LSI2(Pisces) [044400 , EA]
C8 ON	Internal communication alarm	4.3.30	MDC command timeout1 [044400 , F0]

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03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		P1PA03576—B50X/6		
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Scanner section

[Category: Alarm] (Cont'd)

Function No.Display Check LED	Error description	Related section	Error Recovery Guide message
E2 ON	Optical alarm (ADF front)	4.3.16	AGC Control Failure(ADF front) [048006 , 74]
E3 ON	Optical alarm (ADF back)		AGC Control Failure(ADF back) [048006 , 75]
E6 ON	Operator panel alarm	4.3.19	---
E7 ON	EEPROM alarm	4.3.20	EEPROM Alarm [044400 D2]
E8	SCSI fuse blown	4.3.21	---
E9 ON	Image memory alarm	4.3.22	Memory malfunction 044400 F5 044400 F6 044400 F7 044400 F8
F	Flash RAM alarm	4.3.31	---
F2 ON	Drive system (pick arm) alarm	4.3.17	Pick arm overrun [048005 , C4]
F4 ON	Drive system (Background switchover) alarm	4.3.26	Front-side Background overrun [048005 , C2]
F6 ON	Fan alarm	4.3.27	FAN Stop [048007 , EC]
H1 ON	Motor fuse blown	4.3.17	Motor fuse alarm [048001 , 81]
H5 ON	TPS fuse blown	4.3.26	---
H7 ON	Lamp fuse blown	4.3.18	Lamp fuse alarm [048003 , 84]
L6 ON	Ultrasonic sensor alarm	4.3.28	Sensor malfunction [044400 02]
L9 ON	OMR sensor alarm		OMR sensor malfunction [044400 03]
---	Optical alarm	4.3.16	Dirty optical system(front) [048006 , 72] Dirty optical system(back) [048006 , 73]
---	IPC (option board) alarm	4.3.26	IPC timeout [048008 , ED]
---	Illegal command	4.3.32	Invalid command [052000 FA] Invalid CDB field [052400 FA] Unsupported logical unit (LUN) [052500 FA] Invalid field parameter list [052600 FA] Command sequence error [052C00 FA] Wrong windows combination [052C02 FA]
---	Interface alarm	4.3.33	Message error [0B4300 FC] Select/Reselect Failure [0B4500 FC] SCSI parity error [0B4700 FC] Initiator Detected Error Message Received [0B4800 FC] Overlapped Command Attempted [0B4E00 FC] Image transfer error [0B8001 FC]

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03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.					
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Imprinter section

[Category: Temporary error]

Function No.Display Check LED	Error description	Related section	Error Recovery Guide message
J1 ON	Paper jam	4.3.11	Paper JAM Imprinter [038001 . 5A]
U5 ON	Imprinter cover open	4.3.13	Imprinter Cover Open [038002 4A]
U6 ON	No ink cartridge	4.3.14	No Head [038010 B4]
U7 ON	U7: Imprinting position error	4.3.15	Imprinting position detection error [038014 B9]

[Category: Imprinter Alarm]

Function No.Display Check LED	Error description	Related section	Error Recovery Guide message
A0 A1 A2 A3 A4 ON	Imprinter alarm	4.3.23	Imprinter Error (RAM) [048010 B2] Imprinter Error (Communication Timed Out) [048010 B3] Imprinter Error (Printer head) [048010 B5] Imprinter Error (EEPROM) [048010 B6] Imprinter Error (ROM) [048010 B8]
H6 ON	Imprinter fuse blown	4.3.27	Imprinter fuse alarm [048011 , B1]
---	Imprinter does not operate initially	4.3.34	---
---	No imprinting/Imprinting distortion	4.3.35	---
---	Imprinting form is dirty	4.3.36	---

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NOTICE

The troubleshooting should be conducted from item number 1 to the last item number in each table.
Continue the troubleshooting until the error is resolved.

4.3.1 Scanner Does not Turn ON (No display on the Operator Panel)

Item No.	Check items	How/where to check
1	Is the AC cable connected correctly? Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Connect the AC cable to a different wall outlet.	---
3	Replace AC cable and see if the error is resolved.	---
4	Replace Panel PCA A or Panel PCA B and see if the error is resolved.	Refer to Section 5.7.4, 5.7.5.
5	Replace Power supply and see if the error is resolved.	Refer to Section 5.8.2.
6	Replace Control PCA and see if the error is resolved.	Refer to Section 5.8.4.

4.3.2 Scanning Does not Start

Item No.	Check items	How/where to check
1	Does the same symptom appear after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Check the items listed in the right column.	- Is the AC cable connected properly? - Is the interface cable (SCSI or USB) connected properly? - Is the SCSI ID correctly set? - Is there documents loaded on the ADF paper chute? - Is the ADF cover completely closed? - If any temporary error or alarm is indicated, follow the corresponding troubleshooting.

4.3.3 Scanned Image is Distorted

Due to the loose contact in connectors, cut wire in cables, or defective parts, scanned images may have regular consistent or random patterns of distortion on them.

Item No.	Check items	How/where to check
1	Check the items listed in the right column.	- Is the interface cable (SCSI or USB) connected properly? - If any temporary error or alarm is indicated, follow the corresponding troubleshooting.
2	Are the cables between the Control PCA and the Optical unit ADF damaged? Or are the connectors connected properly?	ADF front scanning: Section 5.12.1. ADF back scanning: Section 5.11.2.
3	Replace the Optical unit ADF and see if the error is resolved.	ADF front scanning: Section 5.12.1. ADF back scanning: Section 5.11.2.
4	Replace the Control PCA and see if the error is resolved.	Refer to Section 5.8.4.

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4.3.4 Resolution or Gradation of Scanned Image is Unsatisfactory

Item No.	Check items	How/where to check
1	Check the items listed in the right column.	- Does the document satisfy the paper specifications described in the Section 1.1.6? - Are the scan settings (resolution, density) correctly specified in the application software used for the document being scanned? - Is the interface cable (SCSI or USB) connected correctly? - If any temporary error or alarm is indicated, follow the corresponding troubleshooting.
2	Clean the reading section (glass) and see if the error is resolved.	Refer to Section 7.2.
3	Clean the Feed rollers and Plastic rollers and see if the error is resolved.	Refer to Section 7.2.
4	Is the Optical unit ADF dirty? Are the cables damaged? Are the connectors for the Optical unit or Background unit connected properly?	Refer to Sections 5.3.1 and 7.2 for the cleaning of Optical unit ADF.
5	Replace the Optical unit and see if the error is resolved.	ADF front scanning: Section 5.12.1. ADF back scanning: Section 5.11.2.
6	Replace the Background unit and see if the error is resolved.	ADF back scanning: Replace Background unit F by referring to Section 5.12.1. ADF front scanning: Replace Background unit B by referring to Section 5.11.8.
7	Replace the Control PCA and see if the error is resolved.	Refer to Section 5.8.4.

4.3.5 Too Much Jitter on Scanned Image

The following shows a sample of scanned image when “Jitter” error occurs. This error occurs when the ADF feed roller do not transport the document smoothly.

Scanned image with jitter

ABCDEFQ

Normal scanned image

ABCDEFG

Item No.	Check items	How/where to check
1	Does the document satisfy the paper specification?	Refer to Section 1.1.6 for the document specification.
2	Clean the Feed rollers and the Plastic rollers and see if the error is resolved.	Refer to Section 7.2.
3	Check the Pick roller and Brake roller counter. Is it about the time to replace them?	Check the consumable counter in the software operation panel or in the built-in Maintenance mode (Section 6.1.6). When the counter exceeds the values shown in Section 7.3.1, replace the Pick roller or the Brake roller.
4	Are the cables between the Control PCA and the Feed motor damaged? Are the connectors connected properly?	Refer to Sections 5.8.4 and 5.11.4.
5	Is the Optical unit ADF installed correctly?	ADF front scanning: Section 5.12.1. ADF back scanning: Section 5.11.2.
6	Is the Belt ADF installed correctly?	Refer to Section 5.11.4.
7	Is the Belt ADF damaged?	Refer to Section 5.11.4.
8	Replace Feed motor and see if the error is resolved.	Refer to Section 5.11.4.
9	Replace the Optical unit ADF and see if the error is resolved.	ADF front scanning: Section 5.12.1. ADF back scanning: Section 5.11.2.
10	Replace the ADF unit and see if the error is resolved.	ADF Unit: Section 5.9.1 ADF Fix Unit: Section 5.9.2 ADF Rev Unit: Section 5.9.2

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4.3.6 Scanned Image is Misaligned

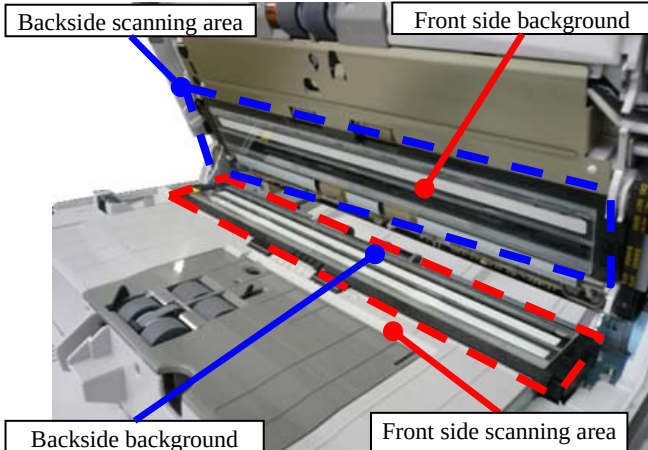
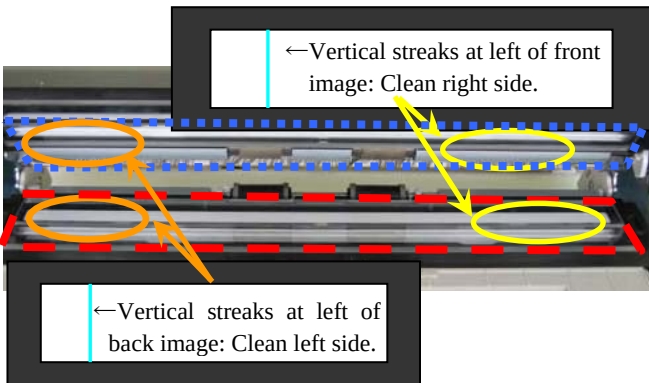
Item No.	Check items	How/where to check
1	Check the items listed in the right column.	- Does the document satisfy the paper specifications described in section 1.1.6? - Are the scan settings (document size, etc.) correct in the application software used?
2	Clean the Feed rollers and the Plastic rollers and see if the error is resolved.	Refer to Section 7.2.
3	Adjust the offset by Maintenance mode.	Refer to Section 6.1.4.
4	Check the Pick roller and Brake roller counter. Is it about the time to replace them?	Refer to Section 6.1.6.
5	Is the Optical unit ADF installed correctly?	ADF front: Section 5.12.1. ADF back: Section 5.11.2.
6	Replace the defective Optical unit ADF and see if the error is resolved.	ADF front: Section 5.12.1. ADF back: Section 5.11.2.
7	Replace the ADF unit and see if the error is resolved.	ADF Unit: Section 5.9.1. ADF Fix Unit: Section 5.9.2. ADF Rev Unit: Section 5.9.2.

4.3.7 Magnification of Scanned Image is Incorrect

Item No.	Check items	How/where to check
1	Check the items listed in the right column.	Are the scan settings (resolution, etc.) correct in the application software used?
2	Does the abnormal magnification occur horizontally (main scanning direction) or vertically (sub-scanning direction)?	Sub-scanning direction: Go to item No.3 Main scanning direction Go to item No.8
3	Clean the Feed rollers and the Plastic rollers and see if the error is resolved.	Refer to Section 7.2.
4	Is there a foreign object in the roller section of the ADF, affecting the rotation of the Feed rollers?	Referring to step (1) in Section 5.11.4, remove the ADF cover, and check the ADF belt.
5	Adjust the vertical magnification in the Maintenance mode.	Refer to Section 6.1.3.
6	Is the Belt ADF loose?	Refer to Section 5.11.4.
7	Replace the Feed motor and see if the error is resolved.	Refer to Section 5.11.4.
8	Is the Optical unit ADF installed correctly?	ADF front scanning: Section 5.12.1. ADF back scanning: Section 5.11.2.
9	Replace the defective Optical unit ADF and see if the error is resolved.	
10	Replace the ADF unit and see if the error is resolved.	ADF Unit: Section 5.9.1 ADF Fix Unit: Section 5.9.2 ADF Rev Unit: Section 5.9.2

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4.3.8 Vertical Streaks Appear in Scanned Image

Item No.	Check items	How/where to check
1	Check the items listed in the right column.	Is the interface cable connected properly?
2	When vertical streaks appear on the front side image, clean the scanning area of the front side and the front side background unit (photo on the right). When vertical streaks appear on the backside image, clean the scanning area of the backside and the backside background unit (photo on the right).	Cleaning ADF: Refer to Section 7.2  Front side: Vertical streaks and cleaning position are left-right reversal. Backside: Vertical streaks and cleaning position are on the same side. 
3	Inside of the glasses at the scanning area or white reference may be dirty. Replace the Background unit.	Background unit F: Section 5.12.4. Background unit B: Section 5.11.8.
4	Is the Optical unit dirty? Are the cables damaged? Are the connectors connected properly?	Refer to Sections 7.2, 5.11.2 and 5.12.1.
5	Replace the Optical unit and see if the error is resolved.	ADF front scanning: Section 5.12.1. ADF back scanning: Section 5.11.2.
6	Replace the Control PCA and see if the error is resolved.	Refer to Section 5.8.4.

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4.3.9 Calibrating White Level of Scanned Image

Item No.	Check items	How/where to check
1	Check the items listed in the right column.	- Are the scan settings (density, number of colors) correct for the application software used? - Is the sheet guide (White part) in the ADF dirty?
2	Perform the white level adjustment in Maintenance mode.	Refer to Section 6.1.5.

4.3.10 “No Paper on the ADF Paper Chute”

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the “O” area of power switch to turn the scanner OFF, and press the “I” area to turn it ON.
2	Is there a slip of paper left near the Empty sensor?	Open the ADF and check inside visually.
3	Check the performance of the Empty sensor.	Enter Maintenance mode #1 (Section 6.1.2) to check the sensor operation. If the error still occurs, confirm that the cable is correctly connected then replace the sensor (Section 5.10.5).

4.3.11 J1, J9: Paper Jam

Item No.	Check items	How/where to check
1	Do the documents satisfy the paper specification?	Refer to Section 1.1.6 for the paper specifications.
2	Have the documents been prepared properly?	- Align the edge of documents for stable paper feeding. - Remove documents with creases or dog-ear corners. - Scanning different widths documents may cause skew and result in paper jam.
3	Is the imprinter EXT cable connected to the scanner properly?	(only when the imprinter is installed) Refer to the cable in “1” of Section 1.1.4 [Sides].
4	Clean the Pick roller, the Separation roller, the Brake roller and the Chute roller and see if the error is resolved.	Refer to Section 7.2.
5	Clean the Feed rollers and the Plastic rollers and see if the error is resolved.	Refer to Section 7.2.
6	Replace the Pick roller, the Brake roller and the Chute roller, and see if the error is resolved.	Check the consumable counter in the built-in Maintenance mode (Section 6.1.6). When the counter exceeds the values shown in Section 7.3.1, replace the Pick roller or the Brake roller.
7	Check the performance of the Pick arm.	If it does not perform correctly, replace BW motor (pick arm side). Refer to Section 5.11.3.
8	Check the performance of TOP sensor.	Refer to Section 6.1.2.
9	Is the Pick sensor malfunctioning?	Refer to Section 6.1.2.
10	Check whether the Sensor OPB5 lever moves smoothly. If not, install it properly.	(only when the imprinter is installed) Refer to Section 8.6.6.2. Replace the Sensor OPB5 if it is damaged.
11	If the imprinter rollers do not rotate, replace the Feed motor.	(only when the imprinter is installed) Refer to Section 8.6.6.3.
12	Replace the Imprinter Control PCA.	(only when the imprinter is installed) Refer to the Section 8.6.5.
13	Replace the scanner Control PCA.	(only when the imprinter is installed) Refer to Section 5.8.4.

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4.3.12 J2: Multi feed

Item No.	Check items	How/where to check
1	Do the documents satisfy the paper specification?	Refer to Section 1.1.6 for paper specification, paying attention to the following points: - Is multifeed error detected by paper length when scanning documents with different length? - Are there perforations in the center of the documents?
2	Are the document handled well?	Check whether the paper is handled as described in step (2) of Section 7.1.2.
3	Clean the ADF unit.	Refer to Section 7.2 for cleaning cycle and method. Clean the Pick roller, the Brake roller, the Ultrasonic sensor and the DF sensor with care.
4	Replace the Pick roller and the Brake roller and see if the error is resolved.	Check the consumable counter in the built-in Maintenance mode (Section 6.1). When the counter exceeds the values shown in Section 7.3.1, replace the Pick roller or the Brake roller.
5	Check the performance of the Ultrasonic sensor and the DF sensor.	Enter Maintenance mode #8 (Section 6.1.9) and adjust the ultrasonic sensor. If the error still occurs, confirm that the cables are correctly connected then replace the corresponding sensor. US Sensor: Section 5.10.3 US Sensor: Section 5.10.6 US PCA: Section 5.10.4 DF Sensor: Section 5.10.8

4.3.13 U4: ADF Cover Open / U5: Imprinter cover open

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Is there a slip of paper left near Cover open sensor?	Open the ADF and check inside visually.
3	Check the performance of Cover open sensors.	- Enter Maintenance mode (Section 6.1) to check the sensor operation. - If the error still occurs, confirm that the cable is correctly connected. - If the error still occurs, replace the sensors by following the sections below: ADF cover open sensor: Section 5.11.7 Imprinter cover sensor: Section 8.6.6.2

4.3.14 U6: No Ink Cartridge (with the Imprinter installed)

Item No.	Check items	How/where to check
1	Check whether the print cartridge is installed properly.	Refer to Section 8.3.3.
2	Remove the Print cartridge and check to see if the electrodes on the mounting bracket are dirty.	Clean if dirty. Refer to Section 8.9.
3	Replace the Print cartridge and see if the error is resolved.	Refer to Section 8.3.3.
4	The communication between the Print cartridge and the Control PCA may be defective. Confirm connection with the parts on the right, and replace if necessary.	Parts to be checked - Holder ASSY: Section 8.6.6.4 - PR cable: Section 8.6.6.4 - Junction PCA: Section 8.6.4.3
5	Replace the Imprinter Control PCA and see if the error is resolved.	Refer to Section 8.6.5.

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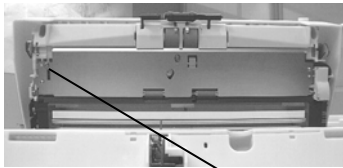
4.3.15 U7: Imprinting position error (with the Imprinter installed)

Item No.	Check items	How/where to check
1	Check whether the imprinting position is specified within the printable area. (Refer to Section 9.1.1 for the printable area and Section 9.3.2 for the print setup.	Confirm whether the printing position or printing length is out of the printable area.
2	The communication between the Print cartridge and the Control PCA may be defective. Confirm connection with the parts on the right, and replace if necessary.	Parts to be checked - Holder ASSY: Section 8.6.4.4 - PR cable: Section 8.6.6.4 - Junction PCA: Section 8.6.5
3	Replace the Imprinter Control PCA and see if the error is resolved.	Refer to Section 8.6.5.

4.3.16 E2 or E3: Optical Alarm

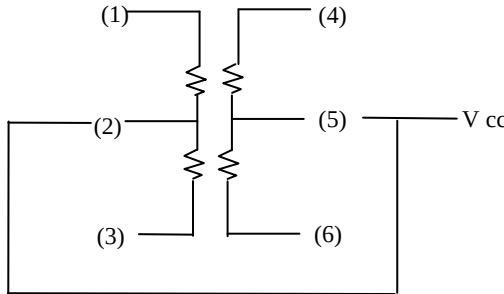
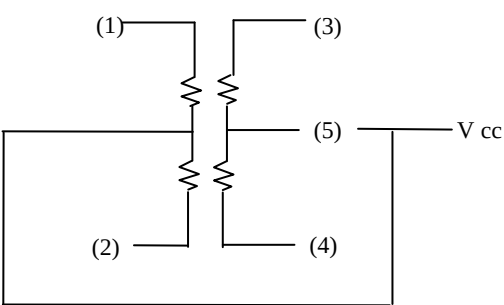
Ref) E2: ADF front side scanning optical alarm (lower optical unit ADF)

E3: ADF backside scanning optical alarm (upper optical unit ADF)

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	E2: Is the upper glass (white sheet guide) of the reading section dirty? E3: Is the lower glass (white sheet guide) of the reading section dirty?	Open the ADF, and clean the sheet guide (white part) and the glass (Section 7.2).
3	E2: Is the lower Optical unit ADF dirty? E3: Is the upper Optical unit ADF dirty? Are the cables damaged? Are the connectors connected properly?	Refer to Section 7.2. Optical unit ADF (for front side scanning): Section 5.12.1 Optical unit ADF (for backside scanning): Section 5.11.2
4	E2: Is the lower lamp ON? E3: Is the upper lamp ON? Are the cables damaged? Are the connectors connected properly?	Disconnect the SCSI cable and turn the scanner ON. Open the ADF and press ADF cover open sensor as shown below to see if the ADF lamps light. If not, the error is caused by defective lamps or inverter. If upper lamp does not light: Refer to "Background unit B" in Section 5.11.8. If lower lamp does not light: Refer to "Background unit F" in Section 5.12.4.  ADF cover open sensor
5	Replace the lower Optical unit ADF and see if the error is resolved. Replace the upper Optical unit ADF and see if the error is resolved.	E2 (ADF front): Section 5.12.1. E3 (ADF back): Section 5.11.2.

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4.3.17 F2: Drive System (Pick Arm) Alarm / H1: Motor Fuse Blown

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Replace the Fuses (F1, F2) and see if the error is resolved.	Refer to Section 5.8. F1: Motors for Pick motor and Feed motor F2: Background switchover, Motor for pick arm
3	Are there any foreign objects lying on the Control PCA?	Remove the Control PCA and inspect (Section 5.8.4).
4	Are the cables between the Control PCA and the motor damaged? Are the connectors connected properly?	Pick motor: Refer to Section 5.12.3. BW motor: Refer to Section 5.11.3 (Pick arm drive) or Section 5.11.5 (Background switchover mechanism). Feed motor: Refer to Section 5.11.4.
5	Is the coil resistance of the motor normal?	Remove the motor cable to check the coil resistance between the following pins of the motor. <u>1) Pick motor unit, Feed motor</u> Pick motor Feed motor Resistance 2-1, 2-3: approx. 1.7 Ohms Resistance 5-4, 5-6: approx. 1.7 Ohms Resistance 1-3, 4-6: approx. 3.4 Ohms Other match: Infinite  <u>2) BW motor</u> BW motor Resistance 1-2, 1-3, 1-4: approx. 20 Ohms Resistance 2-3, 2-4, 3-4: approx. 20 Ohms Resistance 5-1, 5-2, 5-3, 5-4: approx. 40 Ohms Other match: Infinite  Replace the corresponding motor if the resistance is abnormal.
6	Replace the Control PCA and see if the error is resolved.	Refer to Section 5.8.4.

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4.3.18 H7: Lamp Fuse Blown

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Replace the Fuses (F3, F5) and see if the error is resolved.	Refer to Section 5.8. F3: Front side lamp F5: Backside lamp
3	Are there any foreign objects lying on the Control PCA?	Remove the Control PCA and inspect (Section 5.8.4).
4	Are the cables between the Control PCA and the lamps damaged? Are the connectors connected properly?	Referring to the following sections, check the cables (pink and blue lines). Lamp for ADF front: Section 5.12.4. Lamp for ADF back: Section 5.11.8.
5	Replace the Control PCA and see if the error is resolved.	Refer to Section 5.8.4.

4.3.19 E6: Operator Panel Alarm

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Check if the cable is firmly connected.	Refer to Sections 5.7.4 and 5.7.5.
3	The Panel PCA mounted on the scanner may have been used in the past (An error may have occurred on this Panel PCA in the past) .Replace the Panel PCA with a new one and see if the error is resolved.	Install the new Panel PCA after saving the EEPROM data (Panel PCA A: Section 5.7.4, Panel PCA B: Section 5.7.5). Then conduct Maintenance mode #7 to restore the EEPROM data by referring to Section 6.1.8.

4.3.20 E7: EEPROM Alarm

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Replace the Panel PCA A and see if the error is resolved.	Replace the Section 5.7.4.
3	Replace the Control PCA and see if the error is resolved.	Replace the Section 5.8.4.

4.3.21 E8: SCSI Fuse Blown

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Was this error caused by the SCSI cable connected to the scanner or other SCSI devices?	The scanner is available even if this type of scanner alarm occurs. Go to step 3 only if you want to repair the scanner.
3	Replace the Control PCA and see if the error is resolved.	Refer to Section 5.8.4.

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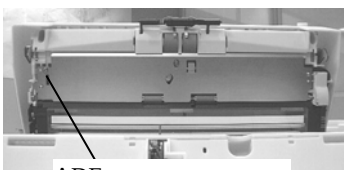
4.3.22 E9: Image Memory Alarm

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Replace the DIMM and see if the same symptom occurs.	Refer to Section 5.8.7.
3	Replace the Control PCA and see if the error is resolved.	Refer to Section 5.8.4.

4.3.23 A0~A4: Imprinter Alarm (with the Imprinter installed)

Item No.	Check items	How/where to check
1	Check whether the print cartridge is installed properly.	Refer to Section 8.3.3.
2	Replace the print cartridge and see if the error is resolved.	Refer to Section 8.3.3.
3	Is the imprinter EXT cable connected to the scanner properly?	Refer to Section 8.3.
4	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
5	Replace the Imprinter Control PCA and see if the error is resolved.	Refer to Section 8.6.5.
6	Replace the scanner Control PCA and see if the error is resolved.	Refer to Section 5.8.4.

4.3.24 F4: Drive System (Background Switchover) Alarm

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Are the cables between the Control PCA, the BW motor (for driving background switch mechanism) and sensors (for detecting background position) damaged? Are the connectors connected properly?	BW motor (background switchover mechanism drive): Section 5.11.5. Sensor (background position detection): Section 5.11.6.
3	Check if the BW motor performs correctly.  ADF cover open sensor	Open the ADF, turn ON the power while pressing the ADF cover open sensor. - If Background unit B on upper ADF does NOT operate, BW motor is not operating correctly. Replace the parts in the following order and find defective parts. 1) BW motor (Background switchover mechanism drive, Section 5.11.5) 2) Background unit F (Section 5.12.1) and Background unit B (Section 5.11.8) 3) Control PCA (Section 5.8.4) - If Background unit B on upper ADF operates correctly, replace the parts in the following order and find defective parts. 1) Sensor for background position detection (Section 5.11.6) 2) Background unit F (Section 5.12.4) and Background unit B (Section 5.11.8) 3) Control PCA (Section 5.8.4)

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4.3.25 F6: Fan Alarm

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press "O" area of power switch to turn the scanner OFF, and press "I" area to turn it ON.
2	Check if the fan ASSY cable is not damaged and if the connectors are connected correctly, then replace the fan ASSY.	Refer to Section 5.8.3.
3	Replace the Control PCA and see if the error is resolved.	Refer to Section 5.8.4.

4.3.26 H5: TPS Fuse Blown

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Replace the Fuse (F9) and see if the error is resolved.	Refer to Section 5.8.5.
3	Check that the optional board (TPS board) is securely installed.	Refer to Section 5.8.6.
4	Replace the optional board (TPS board) and see if the error is resolved.	Refer to Section 5.8.6.
5	Replace the Control PCA and see if the error is resolved.	Refer to Section 5.8.4.

4.3.27 H6: Imprinter Fuse Blown (with the Imprinter installed)

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Replace the Fuse (F9) and see if the error is resolved.	Press the "O" area of power switch to turn the scanner OFF, and remove the Imprinter option. Ten minutes later, press the "I" area of the power switch to turn it ON. - Imprinter fuse is blown: Go to step 3. - Imprinter fuse is not blown: Go to step 5.
3	Are there any foreign objects lying on the scanner Control PCA?	Remove the Control PCA by referring to Section 5.8.4, and inspect it.
4	Replace the scanner Control PCA and see if the error is resolved.	Refer to Section 5.8.4. Closed.
5	Are there any foreign objects lying on the Imprinter Control PCA?	Refer to Section 8.6.5.
6	Replace the Imprinter Control PCA and see if the error is resolved.	Refer to Section 8.6.5.

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4.3.28 L6: Ultrasonic Sensor Alarm / L9: OMR Sensor Alarm

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the “O” area of power switch to turn the scanner OFF, and press the “I” area to turn it ON.
2	Are the cables between the Control PCA and the sensors damaged? Are the connectors connected properly?	Refer to the following sections. Pick sensor: Section 5.10.2 DF sensor: Section 5.10.8 Top sensor: Section 5.10.7 Sensor (Empty sensor): Section 5.10.5 Sensor OP (ADF cover open sensor): Section 5.11.7
3	Replace each sensor and the US PCA and see if the error is resolved.	Refer to the following sections. Pick sensor: Section 5.10.2 DF sensor: Section 5.10.8 Top sensor: Section 5.10.7 Sensor (Empty sensor): Section 5.10.5 Sensor OP (ADF cover open sensor): Section 5.11.7 US PCA: Section 5.10.4
4	Replace the Control PCA and see if the error is resolved.	Refer to Section 5.8.4.

4.3.29 C0: LSI Alarm

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the “O” area of power switch to turn the scanner OFF, and press the “I” area to turn it ON.
2	Replace the Control PCA and see if the error is resolved.	Refer to section 5.8.4.

4.3.30 C8: Internal Communication Alarm

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the “O” area of power switch to turn the scanner OFF, and press the “I” area to turn it ON.
2	Replace the Control PCA and see if the error is resolved.	Refer to Section 5.8.4.

4.3.31 F: Flash RAM Alarm

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the “O” area of power switch to turn the scanner OFF, and press the “I” area to turn it ON.
2	Replace the Control PCA and see if the error is resolved.	Refer to Section 5.8.4.

4.3.32 Illegal Command

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner and PC?	Press the “O” area of power switch to turn the scanner OFF, and press the “I” area to turn it ON.
2	Replace the Control PCA and see if the error is resolved.	Refer to Section 5.8.4.

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4.3.33 Interface Alarm

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner and PC?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Replace the Control PCA and see if the error is resolved.	Refer to Section 5.8.4.

4.3.34 Imprinter does not operate initially (when Imprinter is installed)

Item No.	Check items	How/where to check
1	Check if the Imprinter EXT cable is connected properly.	The cable shown in Section 8.3.
2	Replace the Imprinter Control PCA and see if the error is resolved.	Refer to Section 8.6.5.
3	Replace the scanner Control PCA and see if the error is resolved.	Refer to Section 5.8.4.

4.3.35 No imprinting / Imprinting Distortion (with the Imprinter installed)

Item No.	Check items	How/where to check
1	Check if the screen in Section 9.3.3 is displayed.	Replace the print cartridge if displayed to do so. (Refer to Section 8.3.3)
2	Turn ON/OFF several times, and try imprinting again. Does the same symptom occur? (Be sure to turn OFF the scanner after it becomes READY.)	
3	Clean the print cartridge nozzle and see if the error is resolved.	Refer to Section 8.9.
4	The communication between the print cartridge and the Control PCA may be defective. Confirm the connections with the parts on the right, and replace if necessary.	Parts to be checked - Holder ASSY: Section 8.6.4.4 - PR cable: Section 8.6.6.4 - Junction PCA: Section 8.6.4.3

4.3.36 Scanned Form is Dirty (with the Imprinter installed)

Item No.	Check items	How/where to check
1	Is the sheet guide of the Imprinter dirty with ink?	If dirty, clean it by referring to Sections 8.9.1 to 8.9.3.
2	Replace the Felt.	Refer to Section 8.6.6.5.

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Chapter 5 Maintenance Procedure

This chapter describes how to replace maintenance parts, and clean the scanner to ensure normal operations. When assembling the maintenance parts, conduct necessary cleaning when instructed in this manual.

5.1 For Safety Operation

Please read this page carefully before disassembling or assembling.



WARNING

Electric shock

Before disassembling or assembling, turn the power switch off, and unplug the AC power source from the outlet. If you do not do this, an electric shock may occur.



CAUTION

Injury

Be careful not to get your fingers, hair, clothes or accessories caught in a moving part. It may cause injury.

Machine damage

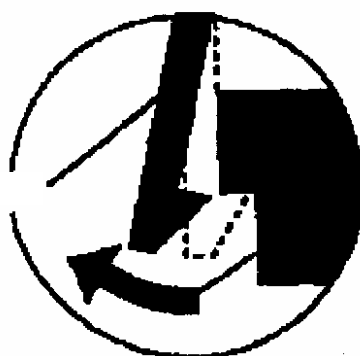
Static Electricity may cause the damage to the scanner.
When repairing the scanner, wear a wrist strap to avoid ESD.

Notes when cleaning

When cleaning the scanner, be careful not to allow foreign matter, such as dried ink and toner, to fall inside the scanner.

How to unlock plastic hooks

Many parts of the scanner are held in place with plastic hooks.
When removing parts that are held in place with hooks, be very careful not to break the hooks.
Pull out the latch to unlock, then pull up on the assembly to remove.



Do not use excessive force when removing parts held in place with hooks.

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5.2 Periodic Maintenance

Periodic maintenance should be performed on the scanner at the following intervals.

Item	Maintenance cycle
Periodic maintenance	Every 12 months

During a service call, clean the ADF if dirty (Sections 5.3 and 7.2).

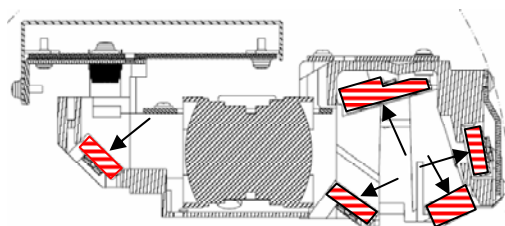
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5.3 Cleaning

5.3.1 Cleaning the Optical Unit ADF

Clean the Optical unit ADF using the following procedure.

- 1) To clean the Optical unit ADF for front side scanning (lower parts in ADF), remove the Optical unit ADF by following the procedure in Section 5.12.1.
To clean the Optical unit ADF for backside scanning (upper parts in ADF), remove the Optical unit ADF by following the procedure in Section 5.11.2.
- 2) Remove any paper dust on the mirrors of the Optical unit ADF with blow brush (photo below). Do not use compressed air which may build up condensation on the mirrors.



Blow brush

NOTICE

Do not disassemble any parts of the Optical unit (PCA's and mirrors) as mentioned in Section 5.5.

5.3.2 (Reserved)

5.3.3 (Reserved)

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5.4 Maintenance Tool

Special tools to maintain this scanner are shown in the table below.

No.	Tools	When to use	Remarks
1	Philips screwdriver		For M3, M4 screws
2	Alcohol	Cleaning	Ethyl alcohol or isopropyl alcohol
3	Blow brush	Cleaning mirrors	
4	Glove or cloth	Handling CR shaft	
5	Small flat-blade screwdriver	Removing sensors and connectors	
6	Allen Wrench (2mm)	Removing special screws for carrier guide shaft	
7	Longnose plier	Installing E ring	
8	White level adjustment sheet	White level adjustment (Section 6.1.5)	Description: WHITE SHEET ATP Part number: PA03277-Y123 Purchase this sheet prior to maintenance.
9	Magnification / Offset adjustment sheet	Magnification adjustment (Section 6.1.3) Offset adjustment (Section 6.1.4)	Required for magnification / offset adjustment for ADF. Refer to Figure 6.1.3, and prepare the sheet in advance.
10	Adjustment sheet	Ultrasonic sensor adjustment (Section 6.1.9)	Description: ADJUST PAPER Part number: PA03296-Y990 Used when replacing US sensor, US PCA, ADF Fix Unit or ADF Rev Unit.
11	Vacuum cleaner	Required for cleaning	Commercial item
12	Packing tape	Required for cleaning.	Commercial item

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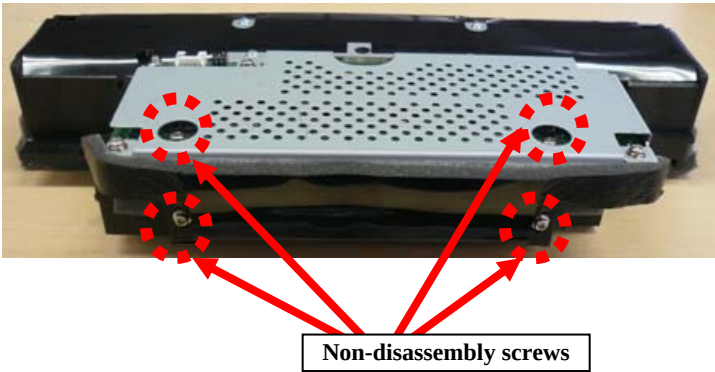
5.5 Non-disassembly Parts

⚠ CAUTION

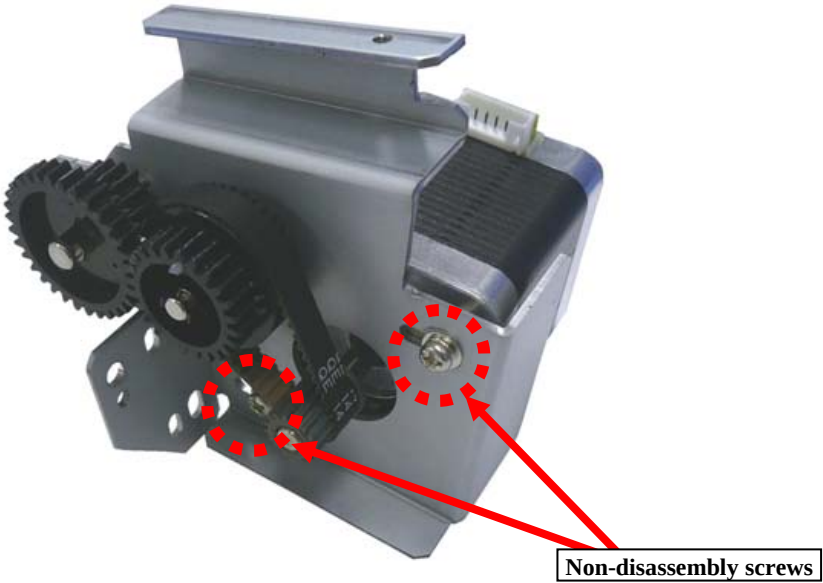
The following screws are adjusted and secured at the factory. Do not attempt to disassemble or loosen them.

(1) Optical unit ADF

Besides the non-disassembly screws, do NOT disassemble any parts on this unit (mirrors).



(2) PICK motor unit screws



5.6 (Reserved)

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5.7 Chute ASSY/ Chute Roller / Stacker ASSY / Panel Unit / Panel PCA

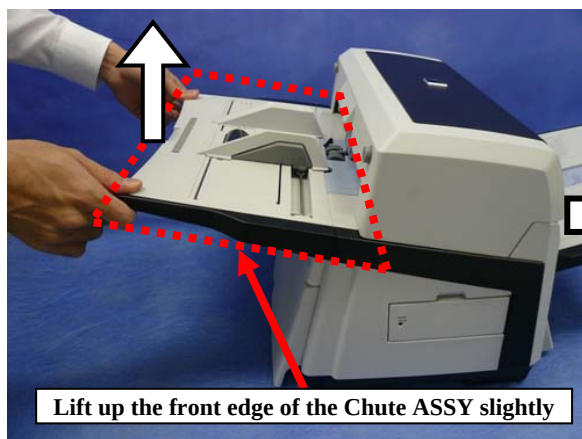
5.7.1 Chute ASSY

NOTICE

Refer to Section 3.27 for the part number of the Chute ASSY.

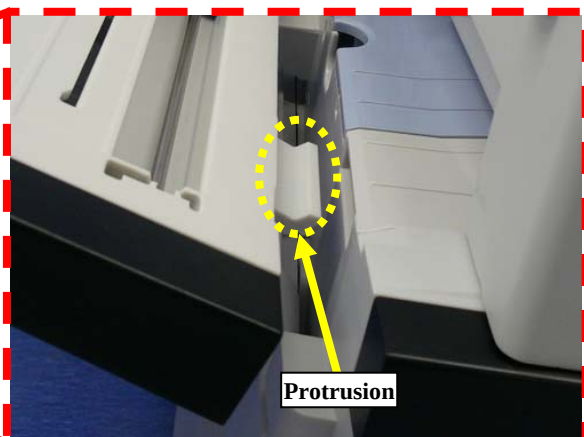
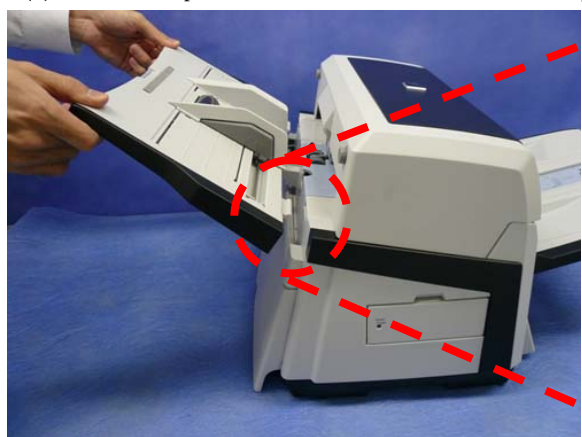
<Removal>

- (1) Lifting up the front edge of the Chute ASSY slightly, pull it out of the scanner.



<Installation>

- (1) Insert the protrusions of the Chute ASSY into the openings in the scanner.



Note: Make sure that there is no gap between the Chute ASSY and the scanner after installation.

If there is a gap between the Chute ASSY and the scanner when the Side Guides are adjusted, the Chute ASSY may move and fall off.



Chute ASSY

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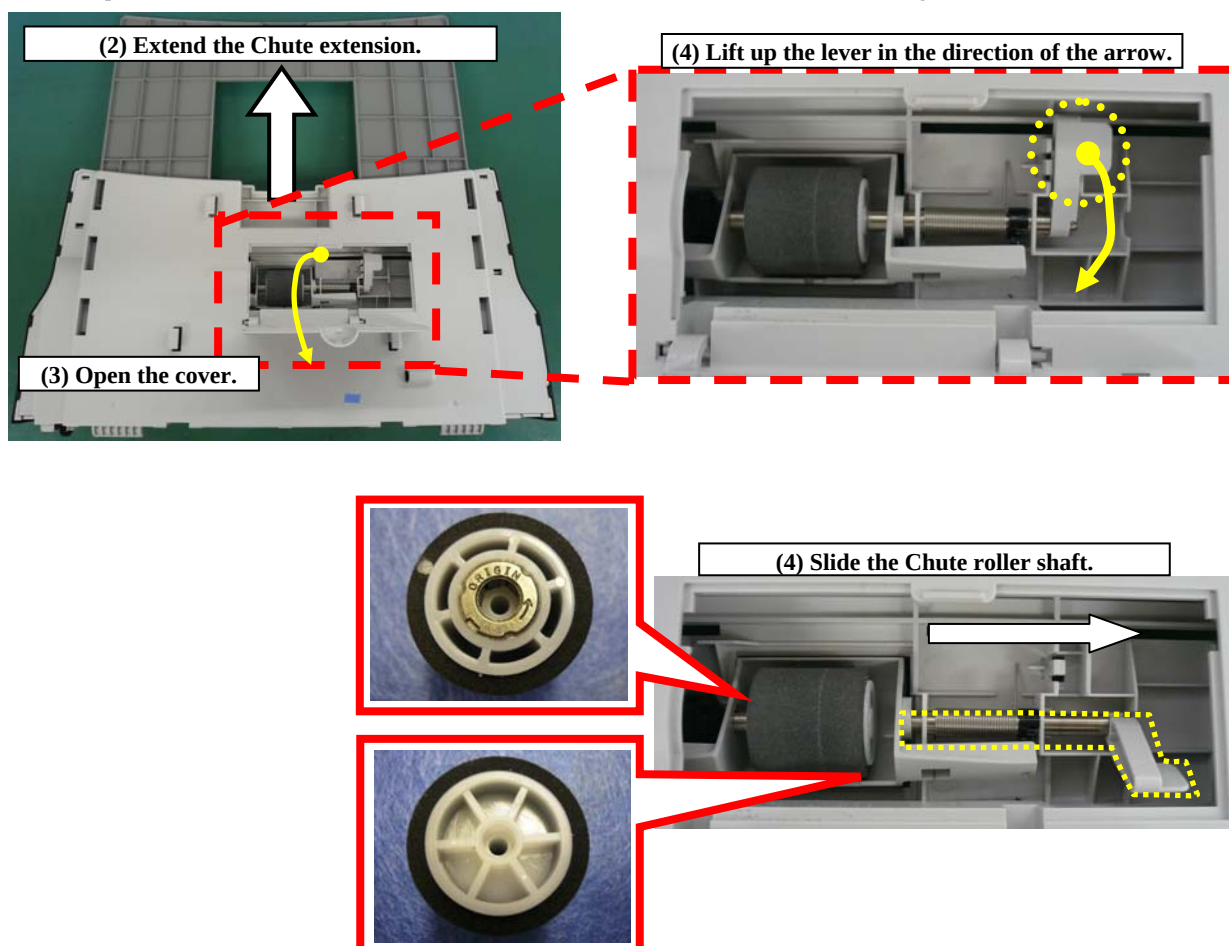
5.7.2 Chute Roller

NOTICE

Refer to Section 3.28 for the part number of the Chute Roller.

<Removal>

- (1) Remove the Chute ASSY by referring to Section 5.7.1.
- (2) Extend the extension of the Chute ASSY all the way out.
- (3) Open the lower cover of the Chute.
- (4) Lift up the lever in the direction of the arrow, and then slide the Chute roller shaft to the right remove the Chute roller.



<Installation>

Follow the above procedure in reverse.



Chute roller

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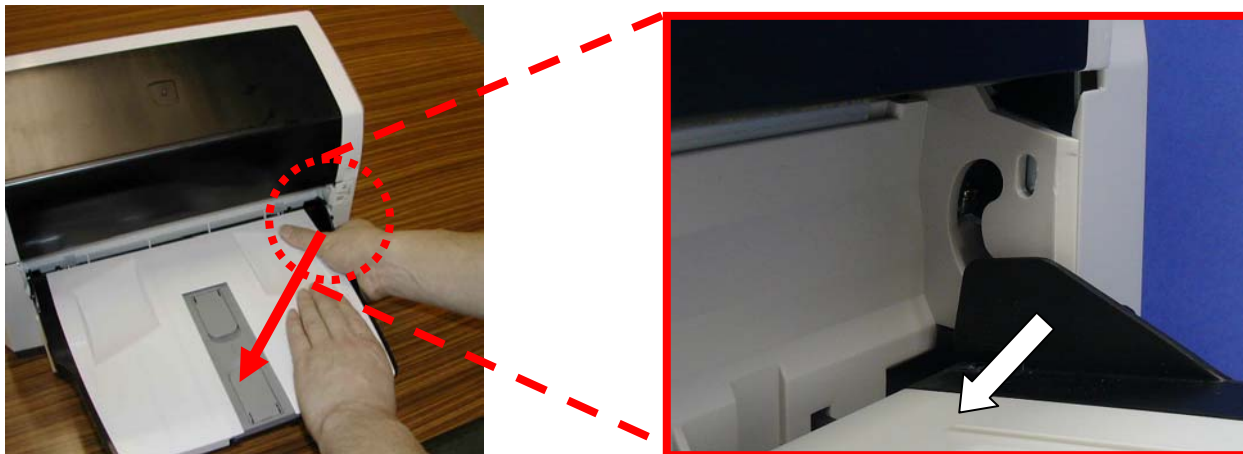
5.7.3 Stacker ASSY

NOTICE

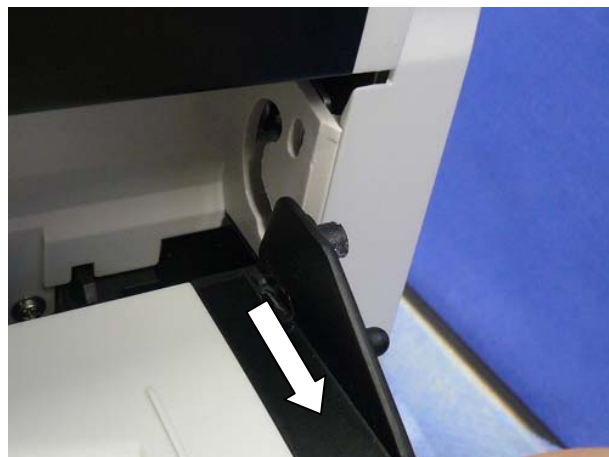
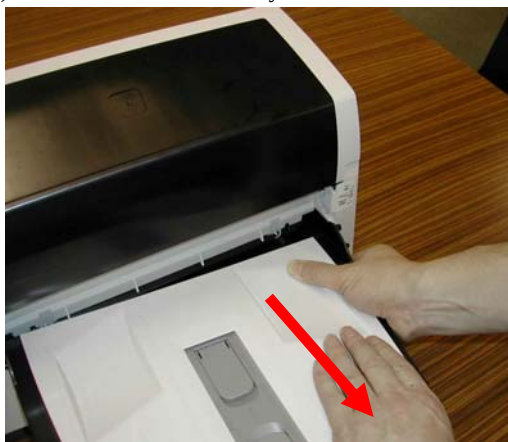
Refer to section 3.26 for the part number of the Stacker ASSY.

<Removal>

- (1) Pushing one side (right side in the photo) of the Stacker to bow, unlatch the pin on the Stacker ASSY.



- (2) Pull the Stacker toward you to remove from the scanner.



<Installation>

Follow the above procedure in reverse.



Stacker ASSY

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5.7.4 Panel Unit A / Panel PCA A

NOTICE

Refer to the following sections for the part numbers of the replacement parts.

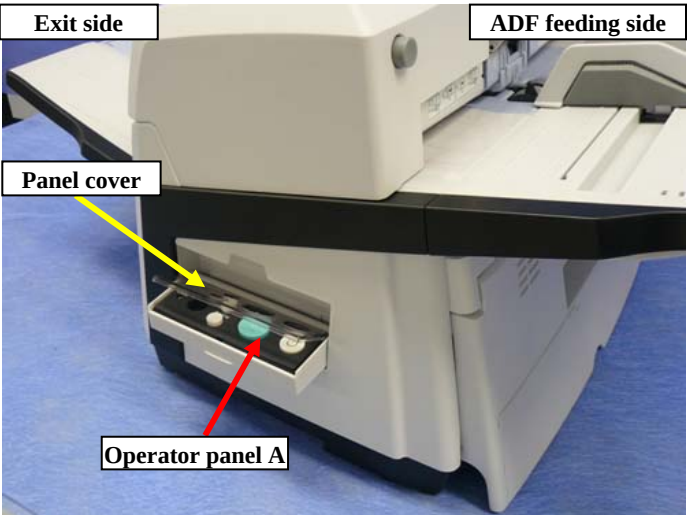
Panel unit A: Section 3.29

Panel PCA A: Section 3.30

<Removal>

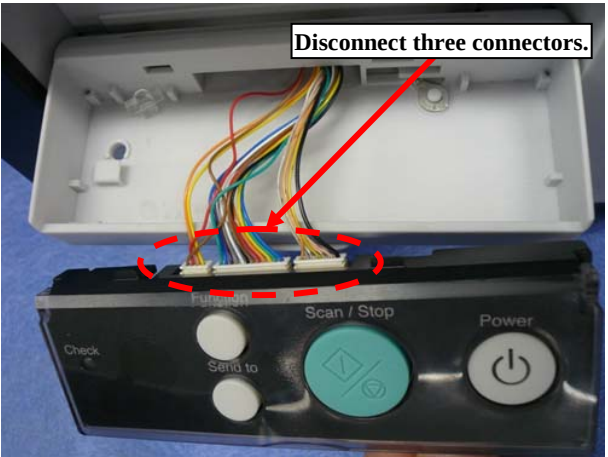
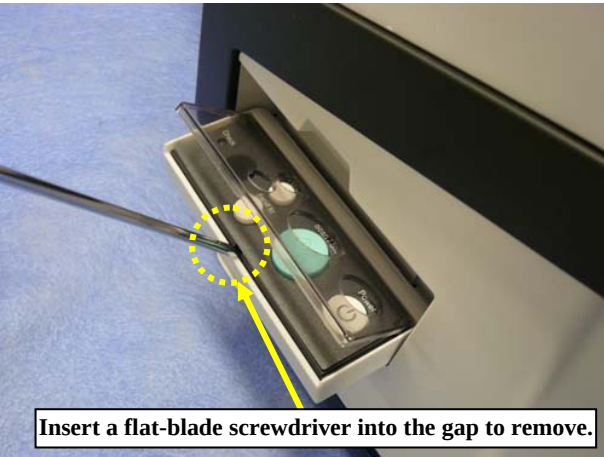
(1) The EEPROM is installed on the Panel PCA A. Before replacing the Panel PCA A or the Panel unit A, save the EEPROM data to the Control PCA temporarily by referring to Section 6.2.

(2) Open the Operator Panel A, and then open the transparent cover.



(3) Insert a small flat-blade screwdriver into the gap to lift up on the Panel unit A.

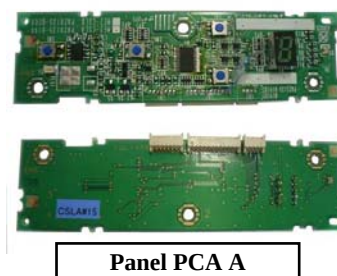
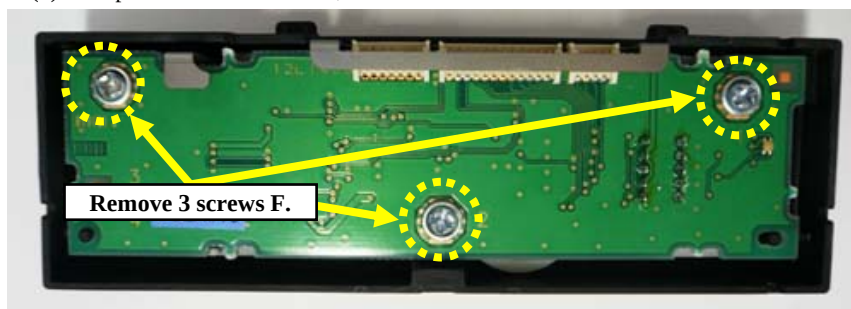
(4) Disconnect the three connectors from the Panel unit A to remove the Panel unit A.



Panel unit A

05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.			Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
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03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.			Drawing No.	P1PA03576—B50X/6			
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(5) To replace the Panel PCA A, remove the three screws F at the back of the PCA to remove the Panel PCA A.



Panel PCA A

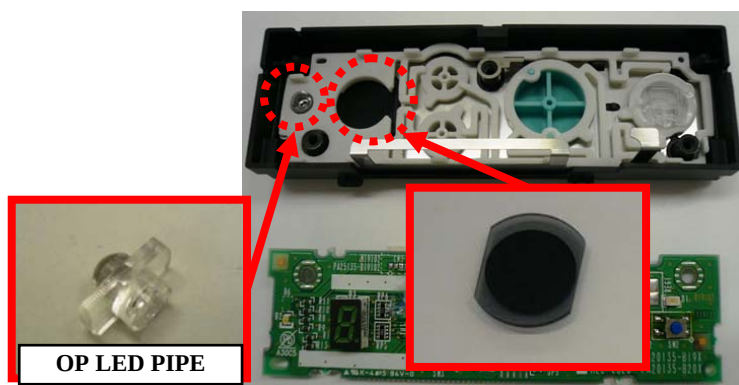
<Installation>

NOTICE

Referring to Section 6.1.8, restore the EEPROM data which was saved to the Control PCA to the Panel PCA A.

(1) Install the Panel PCA A by referring to <Removal> step (5) in Section 5.7.4.

Note 1: When installing the Panel PCA A onto the Panel unit A, be careful not to drop the clear plastic part of the LED. Likewise, be careful when installing the Panel unit A.



Note 2: Remove the Side cover beforehand by referring to steps (2) ~ (7) in Section 5.9.2.

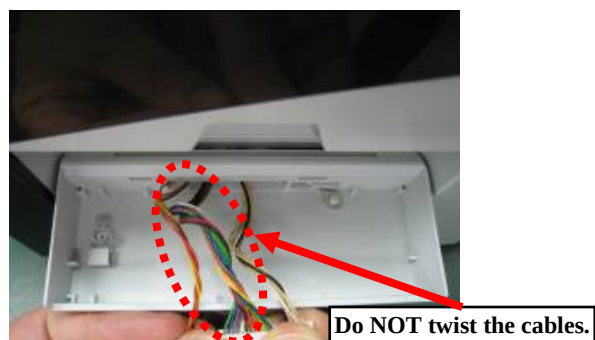
(2) Draw out three cables from the Side cover, and rest the Side cover against the bottom frame.

(3) Connect three cables to the connector on the Panel unit A.



05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual		
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		P1PA03576—B50X/6		
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
Rev.	D A T E	DESIG.	CHECK	APPR.	DESCRIPTION	Drawing No.	PFU LIMITED		
DESIG.	May 28, 2008		K.Okada	CHECK	T.Anzai				
						APPR.	I.Fujioka	Page	77 / 231

Note 3: Be careful not to twist the cables when installing them.



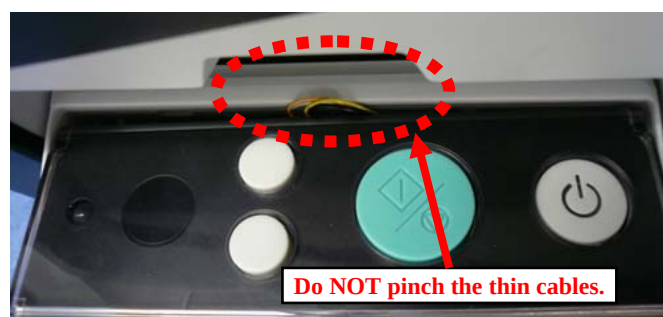
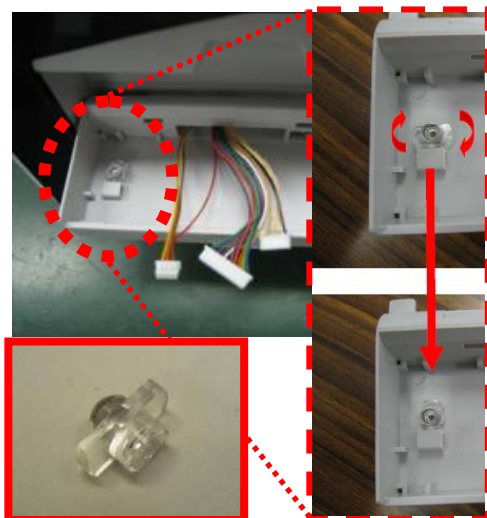
(4) Install the Panel unit A onto the Side cover.

(5) With the Panel unit A opened, install the Side cover to onto the bottom frame.



Note 4: When installing the Panel unit A, rotate the clear plastic part to fix.

Note 5: Be careful not to pinch the cables between the panel and cover.



05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.					
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6			
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5.7.5 Panel Unit B / Panel PCA B

NOTICE

1. Refer to the following sections for the part numbers of the replacement parts.

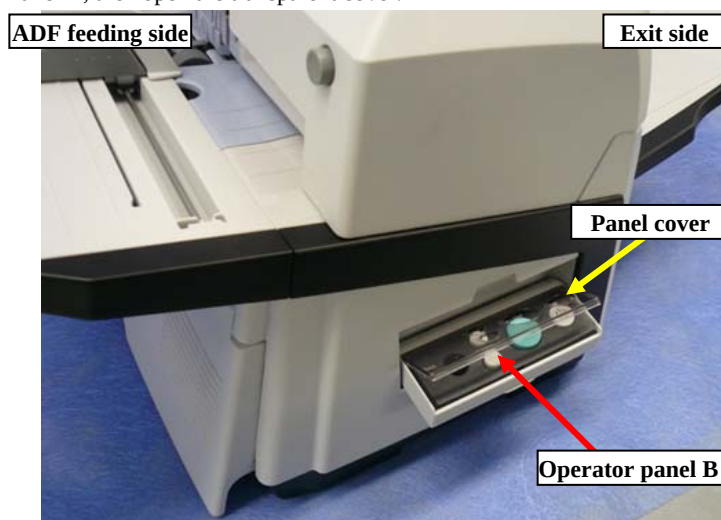
Panel unit B: Section 3.31

Panel PCA B: Section 3.32

2. There is no EEPROM installed on the Panel PCA B. You do not need to temporarily move the EEPROM data to the Control PCA.

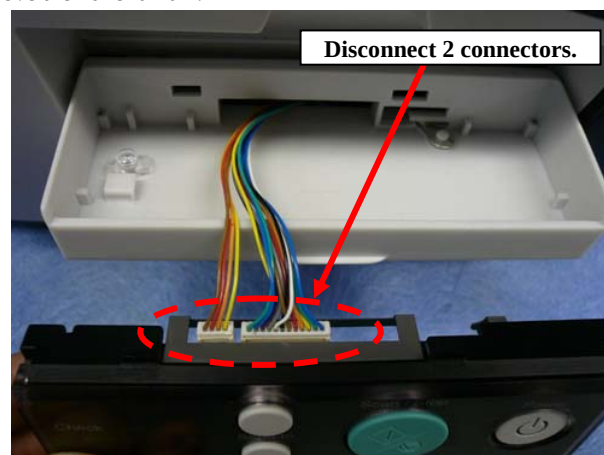
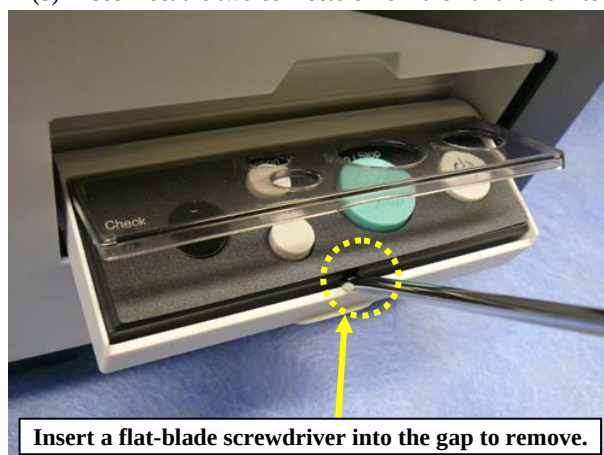
<Removal>

(1) Open the Operator Panel B, then open the transparent cover.



(2) Insert a small flat-blade screwdriver into the gap to lift up on the Panel unit B.

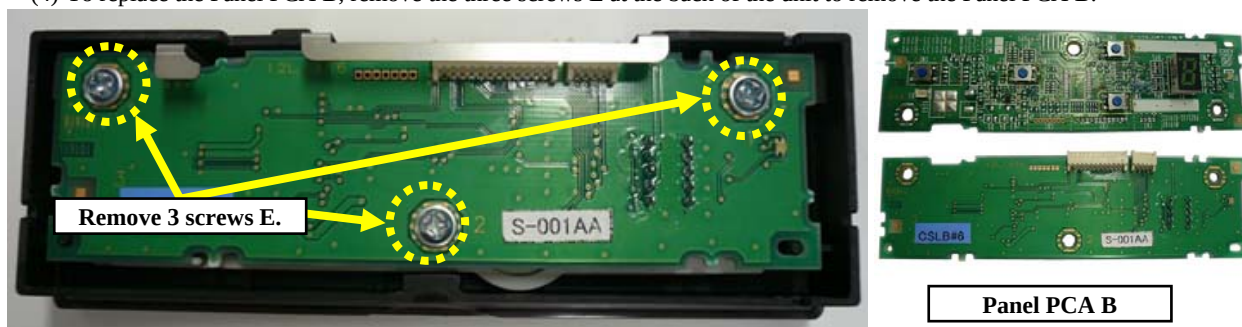
(3) Disconnect the two connectors from the Panel unit B to remove the Panel unit B.



Panel unit B

05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.					
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6			
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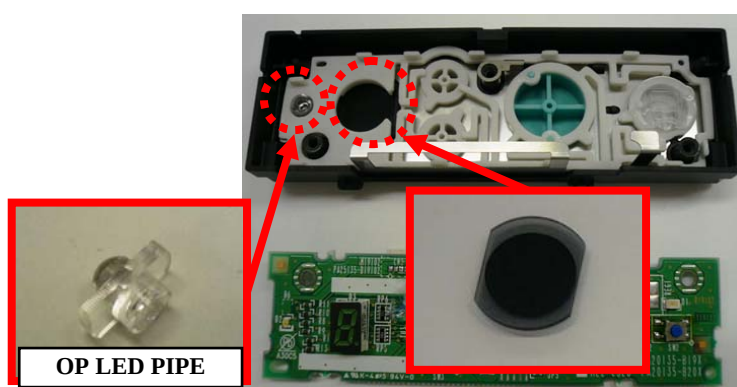
(4) To replace the Panel PCA B, remove the three screws E at the back of the unit to remove the Panel PCA B.



<Installation>

(1) Install the Panel PCA A by referring to <Removal> step (5) in Section 5.7.4.

Note 1: When installing the Panel PCA B onto the Panel unit B, be careful not to drop the clear plastic part for the LED. Likewise, be careful when installing the Panel unit A.



Note 2: Remove the Side cover beforehand by referring to steps (2) ~ (7) in Section 5.9.2.

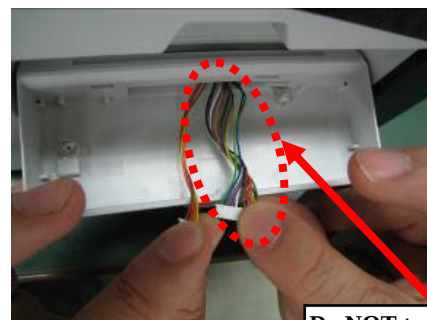
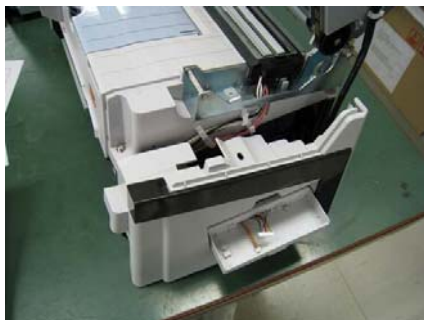
(2) Draw out two cables from the Side cover, and rest the Side cover against the bottom frame.

(3) Connect two cables to the connector on the Panel unit B.



05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual		
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6		
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
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Note 3: Be careful not to twist the cables when installing them.



Do NOT twist the cables.

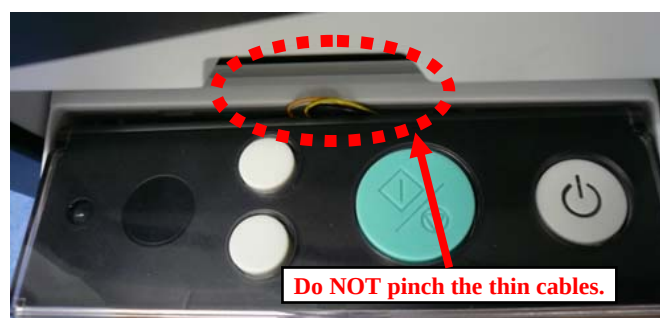
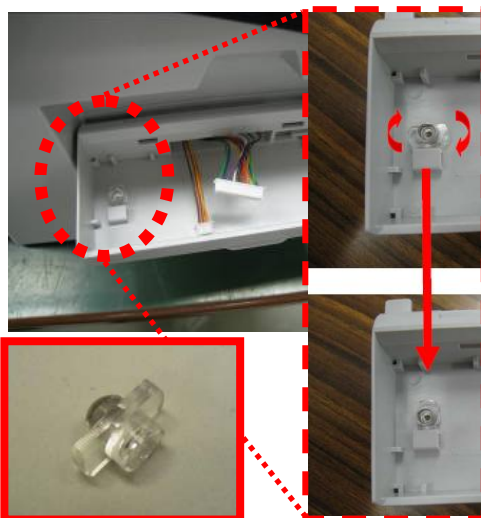
(4) Install the Panel unit B onto the Side cover.

(5) With the Panel unit B opened, install the Side cover to onto the bottom frame.



Note 4: When installing the Panel unit B, rotate the clear plastic part to fix.

Note 5: Be careful not to pinch the cables between the panel and cover.



Do NOT pinch the thin cables.

05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.					
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6			
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5.8 Inside of PCA Unit

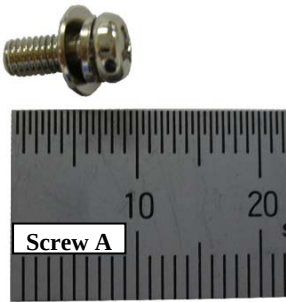
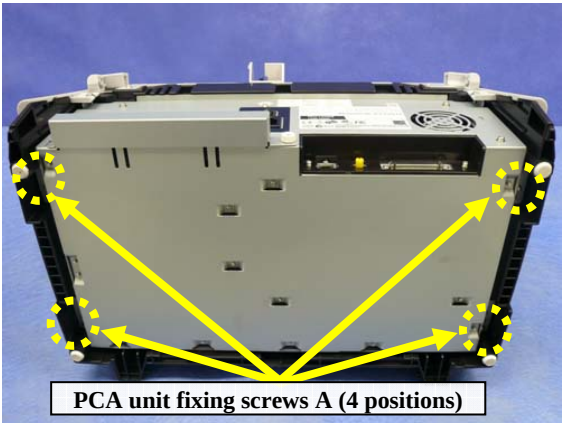
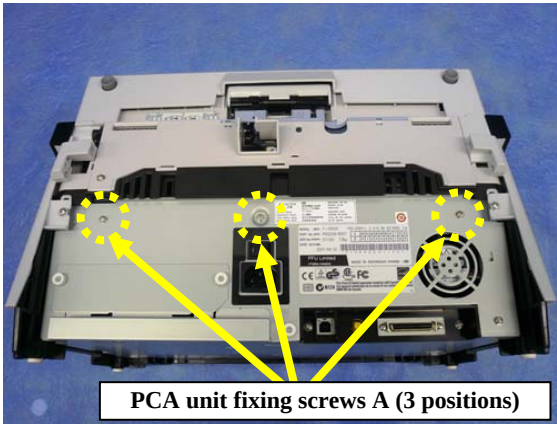
5.8.1 PCA Unit (not a maintenance part)

<Removal>

- (1) If the Imprinter (option) is installed, remove it from the scanner by the reverse order of Section 8.2.2.
- (2) Remove the Chute ASSY (Section 5.7.1) and the Stacker ASSY (Section 5.7.3).
- (3) Open the Cable cover horizontally, and bow it down to remove.

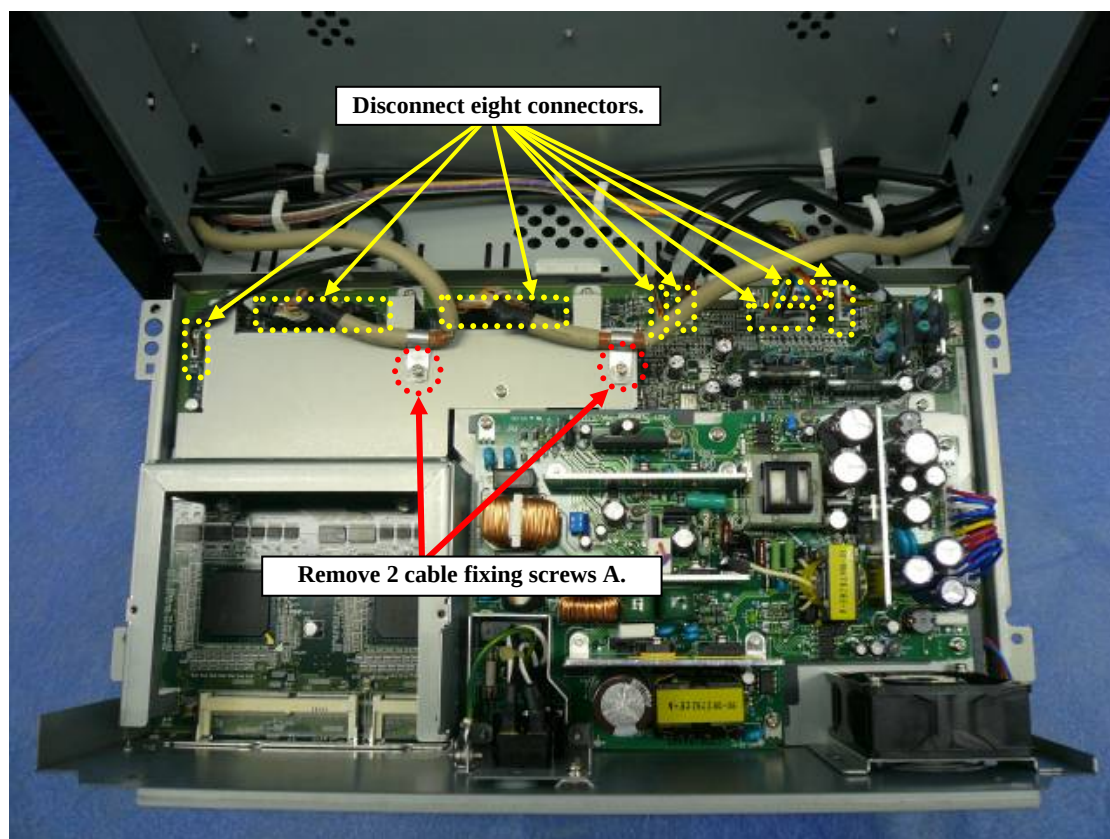


- (4) Place the scanner so that the connector inlet faces up, and remove the seven screws A that secure the PCA unit.



05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR		
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		Maintenance Manual		
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		P1PA03576—B50X/6		
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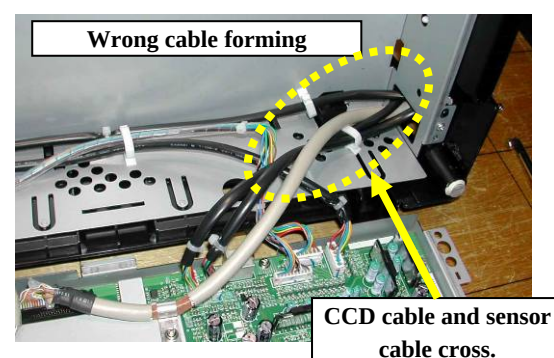
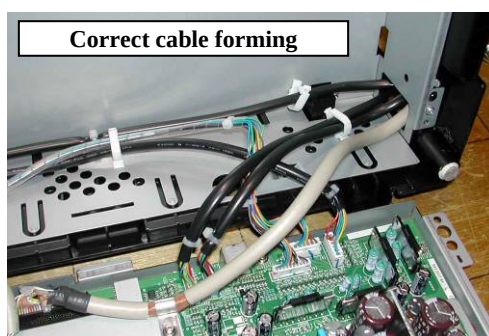
- (5) Remove the two screws A that secure the cable and the eight connectors to remove the PCA unit.



<Installation>

Follow the procedure above in reverse.

Note: When installing the PCA Unit, form the cables as shown below so that the CCD cable and sensor cable do not cross.



To replace the Power supply, go to Section 5.8.2.

To replace the Fan ASSY, go to Section 5.8.3.

To replace the Control PCA, go to Section 5.8.4.

To replace the Fuses, go to Section 5.8.5.

To replace the DIMM, go to Section 5.8.6.

05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.					
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6			
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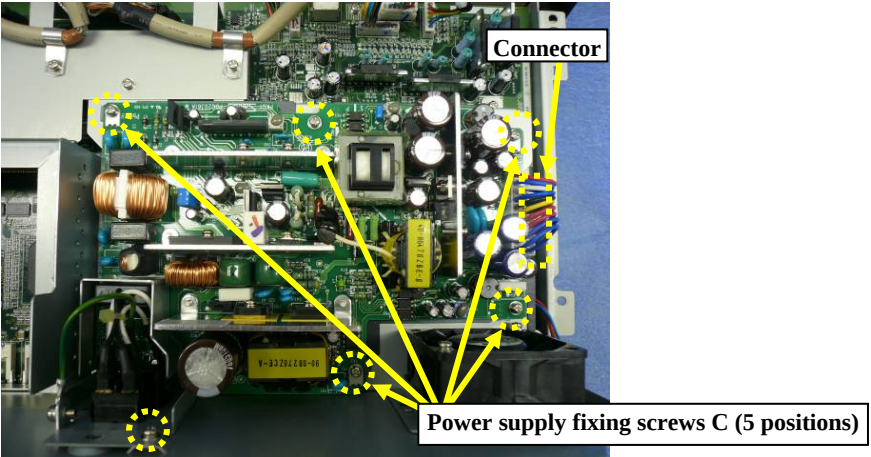
5.8.2 Power Supply

NOTICE

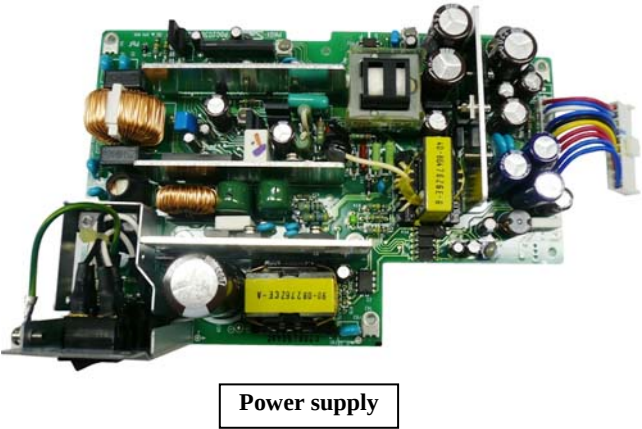
Refer to the Section 3.25 for the part number of the Power Supply.

<Removal>

- (1) Remove the PCA Unit by referring to Section 5.8.1.
- (2) Disconnect the connector from the Control PCA, and then remove five fixing screws C and a fixing screw D to remove the Power supply.



Power supply fixing screw D



Power supply

<Installation>

Follow the above procedure in reverse.

05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual		
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
						Drawing No.	P1PA03576—B50X/6		
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						APPR.	I.Fujioka		

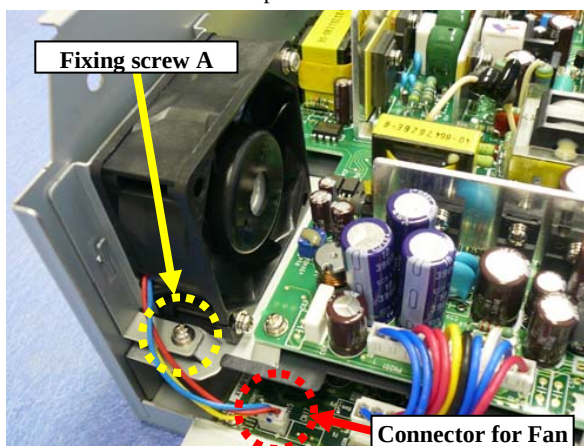
5.8.3 Fan ASSY

NOTICE

Refer to the Section 3.33 for the part number of the Fan ASSY.

<Removal>

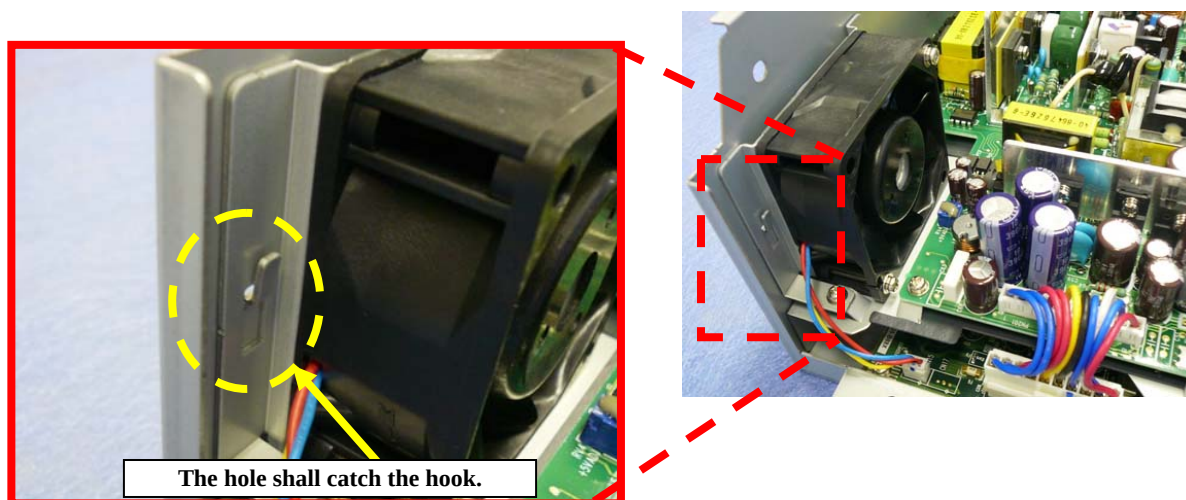
- (1) Remove the PCA Unit by referring to Section 5.8.1.
- (2) Disconnect the connector for the fan from the Control PCA.
- (3) Remove the fixing screw A, and then lift the Fan ASSY upward to remove.



<Installation>

Follow the above procedure in reverse.

Note: Install the bracket so that the bracket hole of the Fan ASSY catches the two hooks of the PCA Unit.



Fan ASSY

05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
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03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6			
Rev.	D A T E	DESIG.	CHECK	APPR.	DESCRIPTION	PFU LIMITED			Page	85 / 231
	DESIG.	May 28, 2008	K.Okada	CHECK	T.Anzai					

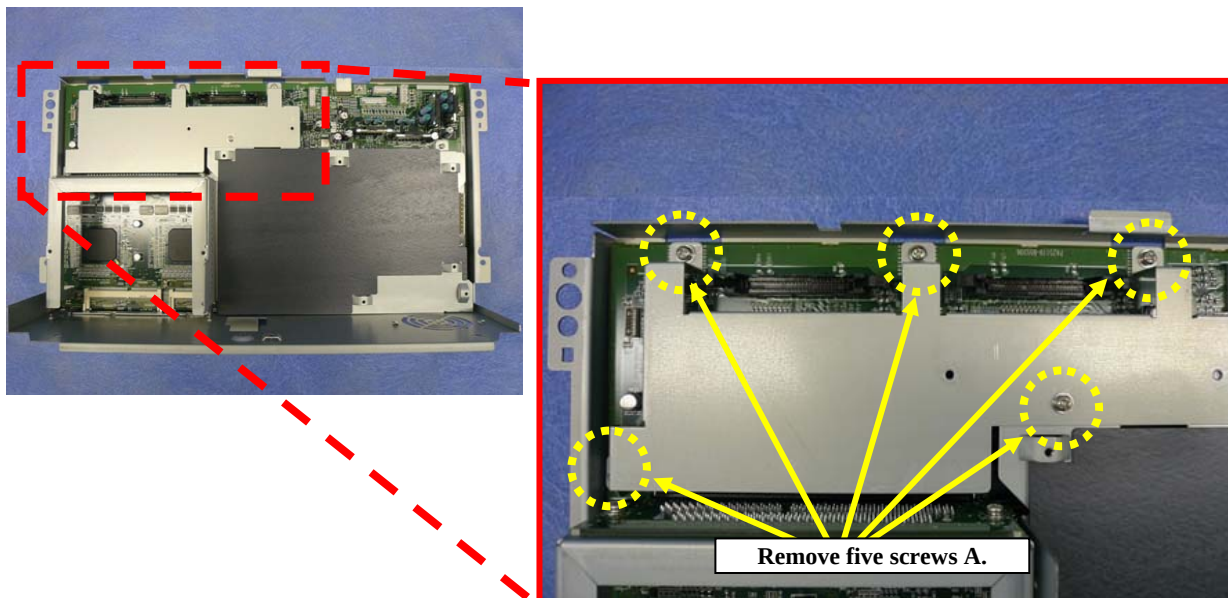
5.8.4 Control PCA

NOTICE

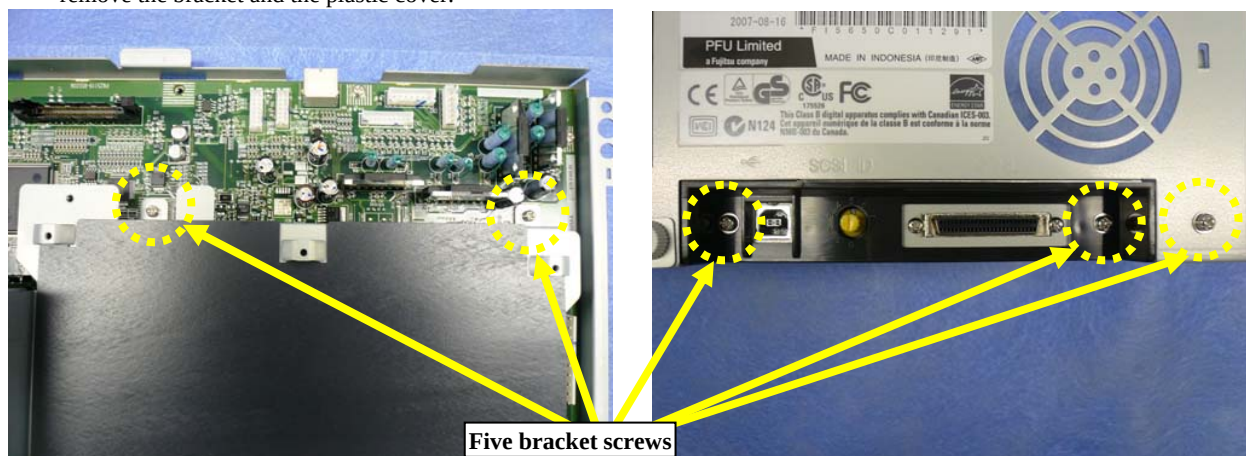
Refer to the Section 3.20 for the part number of the Control PCA.

<Removal>

- (1) Remove the PCA Unit by referring to Section 5.8.1.
- (2) Remove the Power Supply by referring to Section 5.8.2.
- (3) Remove the Fan ASSY by referring to Section 5.8.3.
- (4) Remove five screws A , to remove the Control PCA bracket.

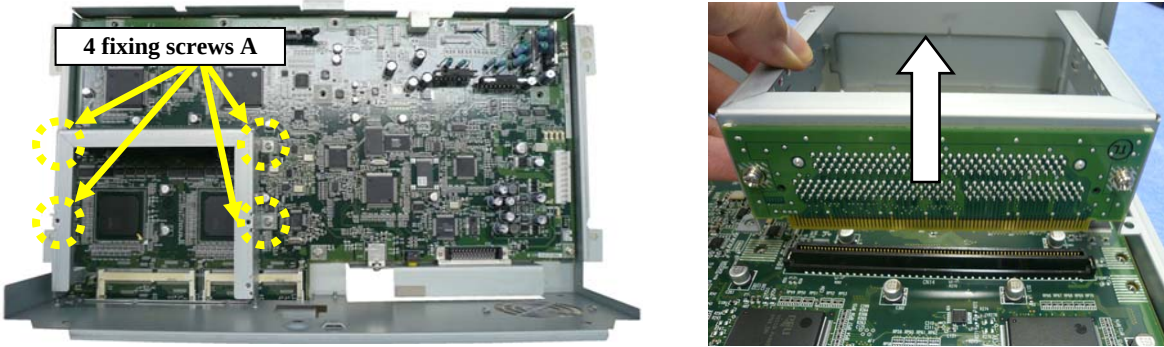


- (5) Remove the five screws securing the bracket (two from the upper and three from the back of the Control PCA), and then remove the bracket and the plastic cover.

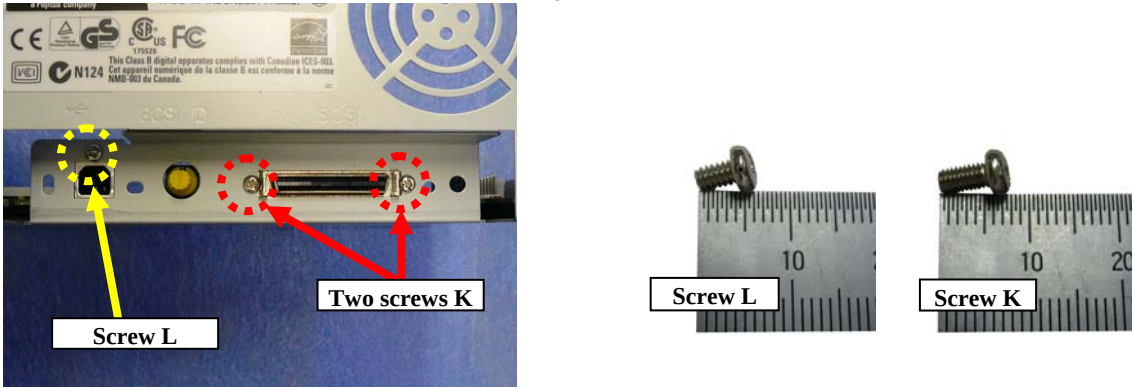


05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.					
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6			
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(6) Remove the four screws A securing the rail, and then remove the for TPS Board from the Control PCA.

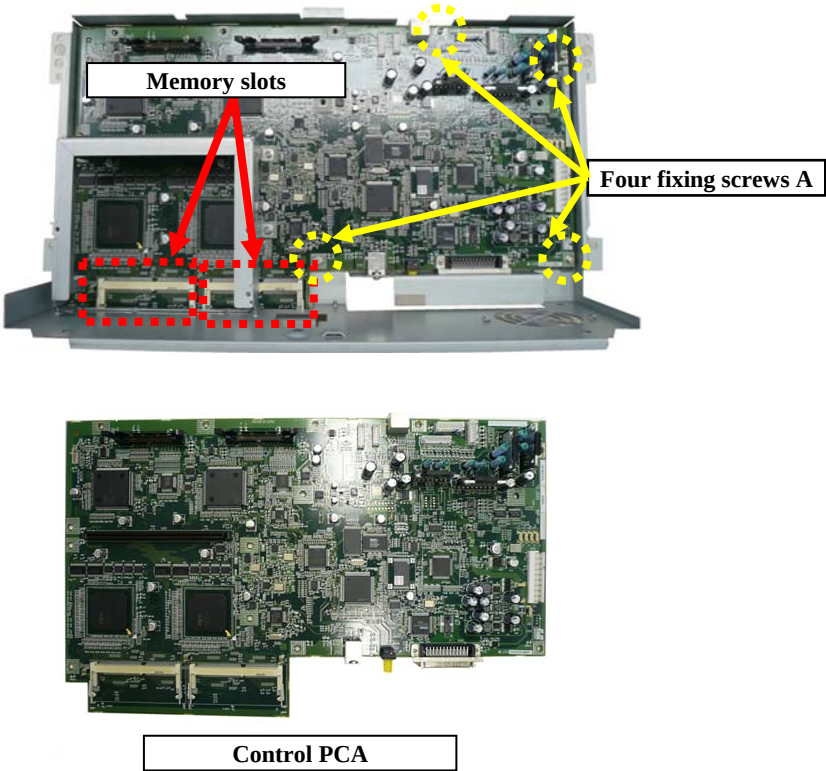


(7) Remove three screws (one screw L and two screws K) securing the connector to the back of the Control PCA.



(8) Remove the four fixing screws A to remove the Control PCA.

(9) Remove the DIMM's if installed.



<Installation>

Follow the above procedure in reverse.

05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		Drawing No.	P1PA03576—B50X/6		
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.					
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5.8.5 Fuses

NOTICE

Refer to the following sections for the part numbers of the Fuses.

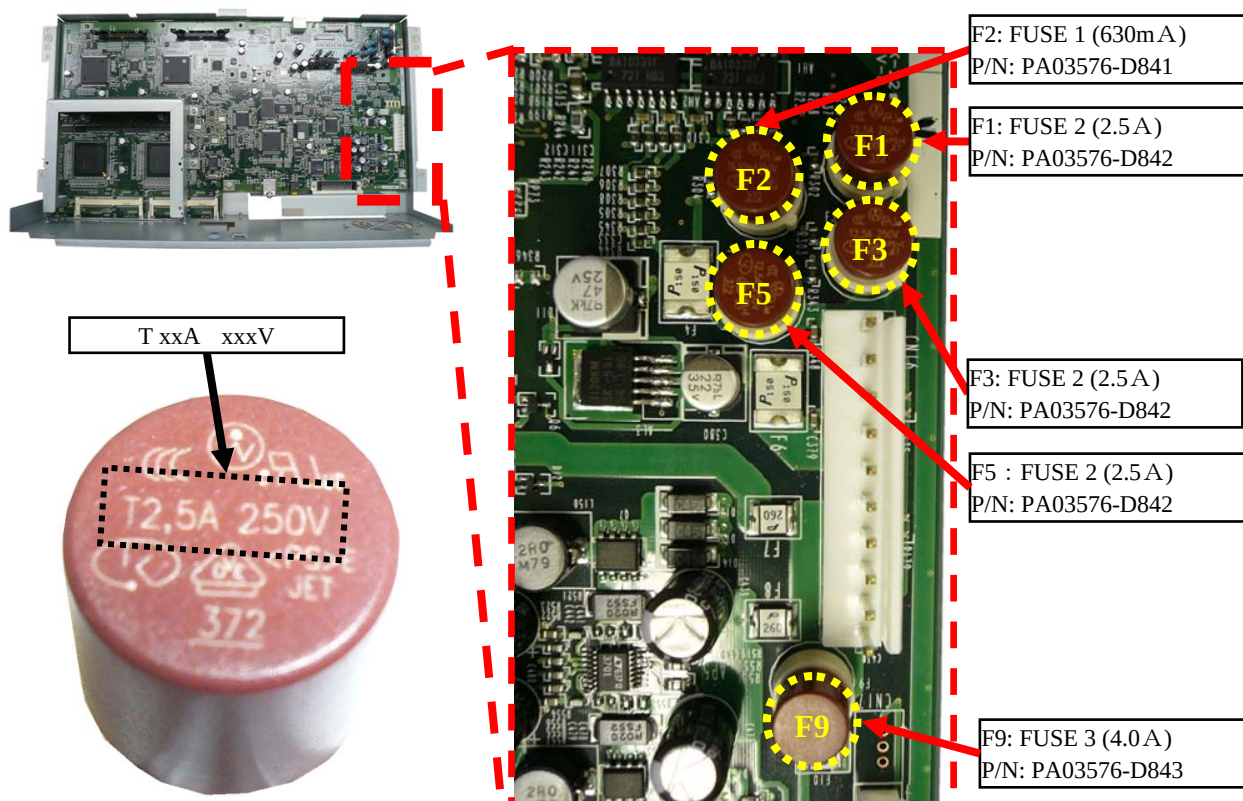
FUSE 1 (630mA): Section 3.22

FUSE 2 (2.5A): Section 3.23

FUSE 3 (4A): Section 3.24

<Removal>

- (1) Remove the PCA Unit by referring to Section 5.8.1.
- (2) Remove the Power Supply by referring to Section 5.8.2.
- (3) Remove the Fan ASSY by referring to Section 5.8.3.
- (4) Remove the bracket by referring to steps (4) and (5) in Section 5.8.4.
- (5) Remove the Fuse to be replaced from the Control PCA.



- (6) Replace the Fuse with a new Fuse of the same value.

Note: Be sure that the same current value fuse is installed onto the same position.

	Fuse position	Installed Fuse	Current value	Part number	Purpose
1	F1	FUSE 2	2.5 A	PA03576-D842	For motor (Pick motor , Feed motor)
2	F2	FUSE 1	630mA	PA03576-D841	For motor (Background switchover, Pick arm)
3	F3	FUSE 2	2.5 A	PA03576-D842	For front side lamp, heater
4	F5	FUSE 2	2.5 A	PA03576-D842	For backside lamp, heater
5	F9	FUSE 3	4.0 A	PA03576-D843	For CGA board (for TPS)

<Installation>

Follow the above procedure in reverse.

05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		Drawing No.	P1PA03576—B50X/6		
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.					
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5.8.6 CGA Board / DIMM

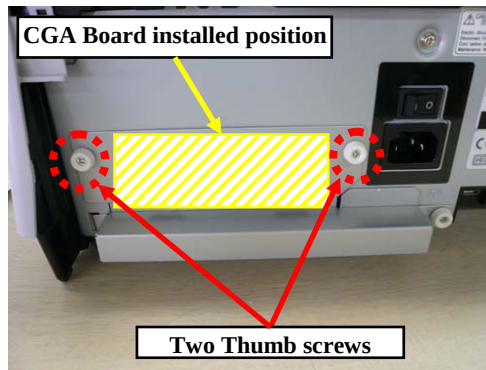
NOTICE

Refer to Sections 3.34 and 3.35 for the part number of the CGA Board/DIMM.

The CGA Board is only installed on the fi-6670A (standard) or fi-6670 with the CGA option.

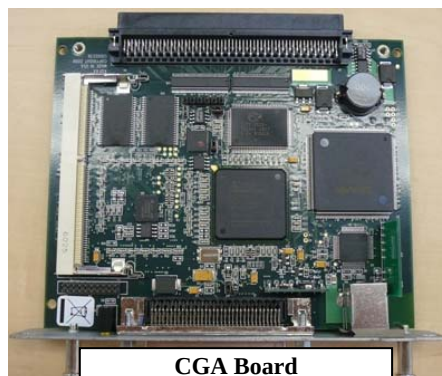
<Removal>

- (1) Remove the two Thumb screws that secure the CGA Board.
- (2) Pull the CGA Board out of the scanner.
- (3) Remove the DIMM from the memory slot on the CGA board.



<Installation>

Follow the above procedure in reverse.



05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.					
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6			
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5.8.7 DIMM

NOTICE

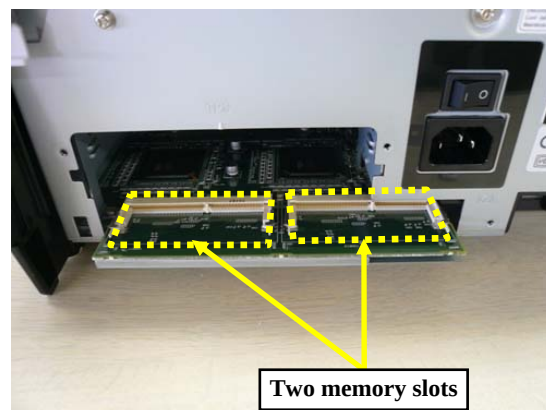
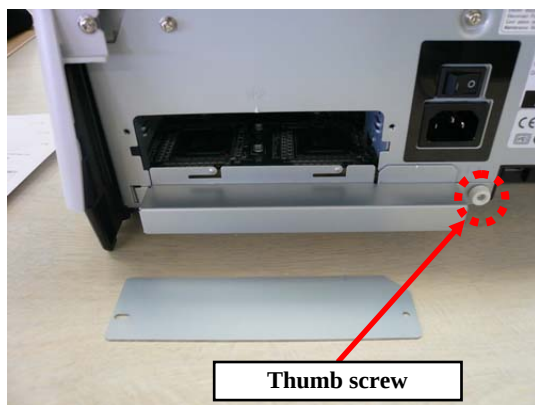
Refer to Section 3.35 for the part number of the DIMM's.

<Removal>

- (1) Remove the CGA Board by referring to Section 5.8.6.

Note: If the CGA board is not installed, remove the Third Party Slot Cover. **fi-6670 only**

- (2) Remove the Thumb screw that secures the Memory cover.
 (3) Remove the DIMM's from the memory slots.



<Installation>

Follow the above procedure in reverse.



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03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6			
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5.9 ADF Unit / ADF Fix Unit / ADF Rev Unit

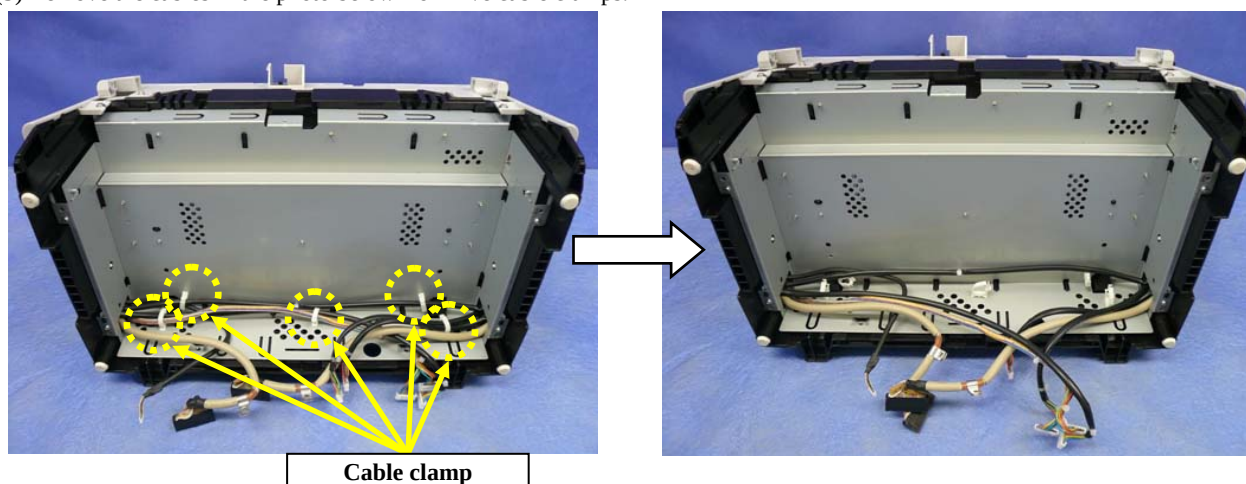
5.9.1 ADF Unit

NOTICE

Refer to Section 3.36 for the part number of the ADF Unit.

<Removal>

- (1) Remove the Imprinter (option) if installed from the scanner by the reverse order of Section 8.3.2.
- (2) Remove the Chute ASSY (Section 5.7.1) and the Stacker ASSY (Section 5.7.3).
- (3) Remove the Panel Unit A by referring to steps (2) and (3) in Section 5.7.4. Remove the Panel Unit B by referring to steps (1) and (2) in Section 5.7.5.
- (4) Remove the PCA Unit by referring to steps (1) to (5) in Section 5.8.1.
- (5) Remove the cables in the photo below from five cable clamps.



- (6) The remaining unit is the ADF Unit.



ADF Unit

<Installation>

Follow the above procedure in reverse.

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03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
						Drawing No.	P1PA03576—B50X/6		
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						APPR.	I.Fujioka		

5.9.2 ADF Fix Unit / ADF Rev Unit

NOTICE

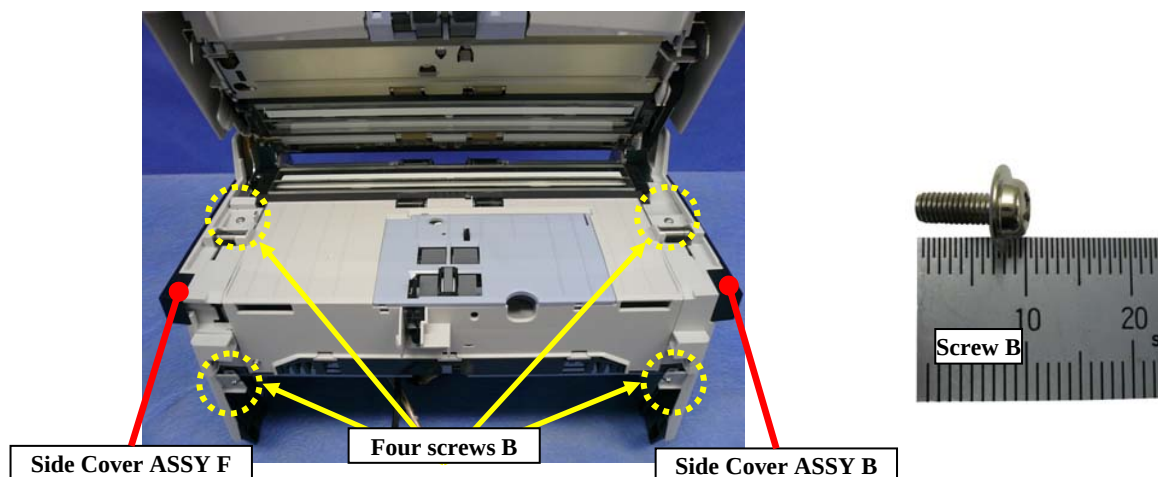
Refer to the following sections for the part numbers of the replacement parts.

ADF Fix Unit: Section 3.1

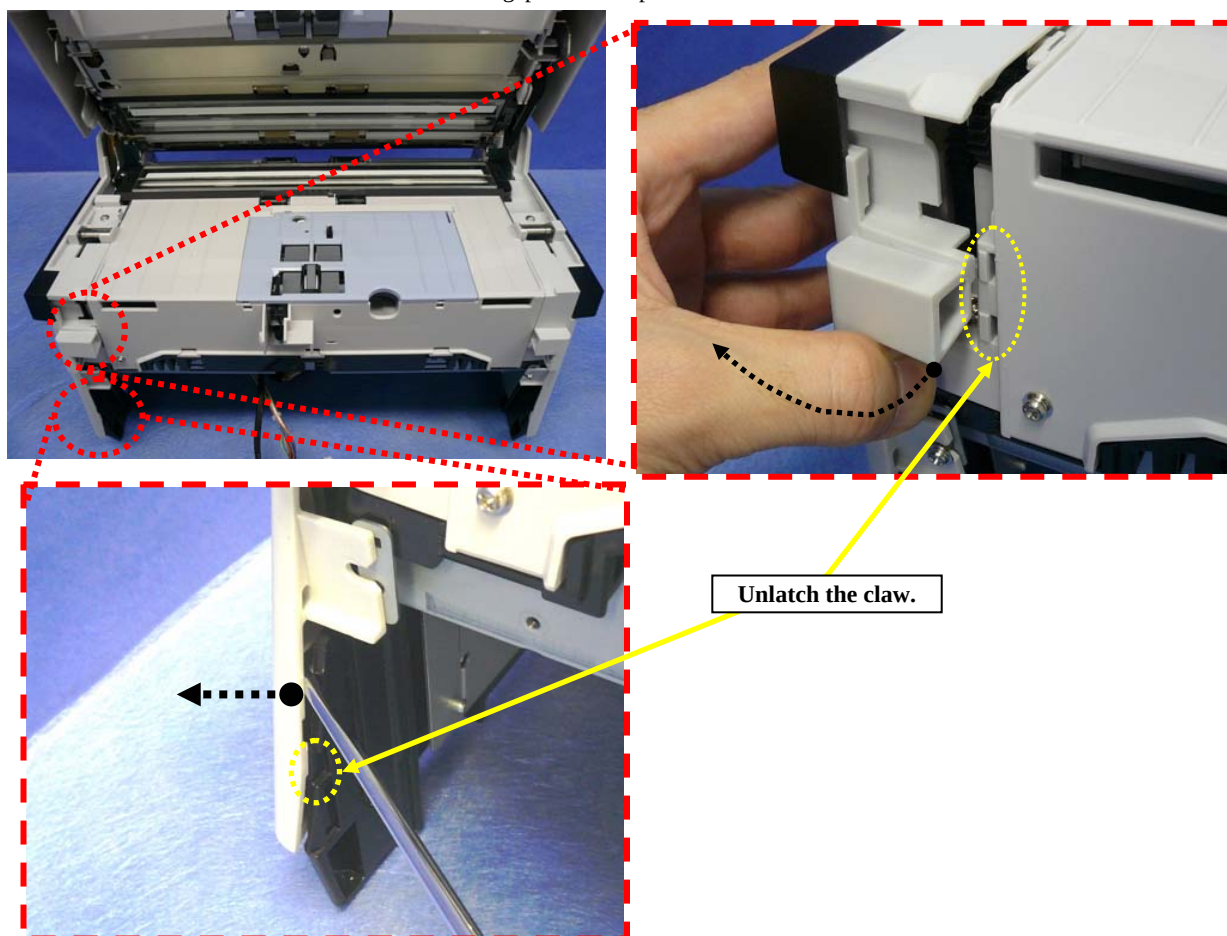
ADF Rev Unit: Section 3.2

<Removal>

- (1) Remove the ADF Unit and PCA Unit by referring to steps (1) ~ (5) in Section 5.9.1.
- (2) Return the scanner to the original position (facing up), and remove the four screws that secure the Side Cover ASSY F and Side Cover ASSY B.

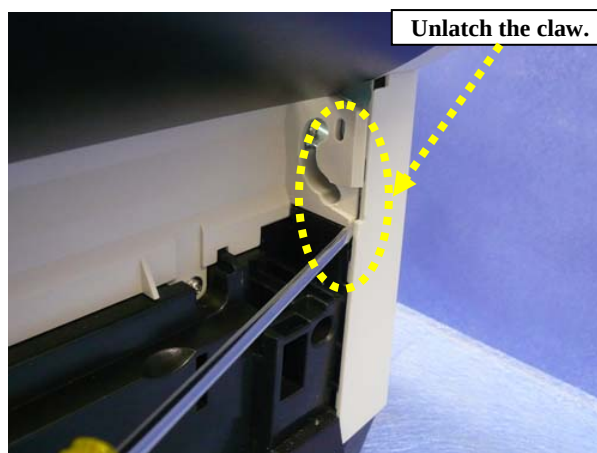


- (3) With the ADF opened slightly, tilt the protrusion of the Side cover ASSY F and unlatch the claw inside. Insert a small flat-blade screwdriver into the gap under the protrusion and unlatch the claw inside.



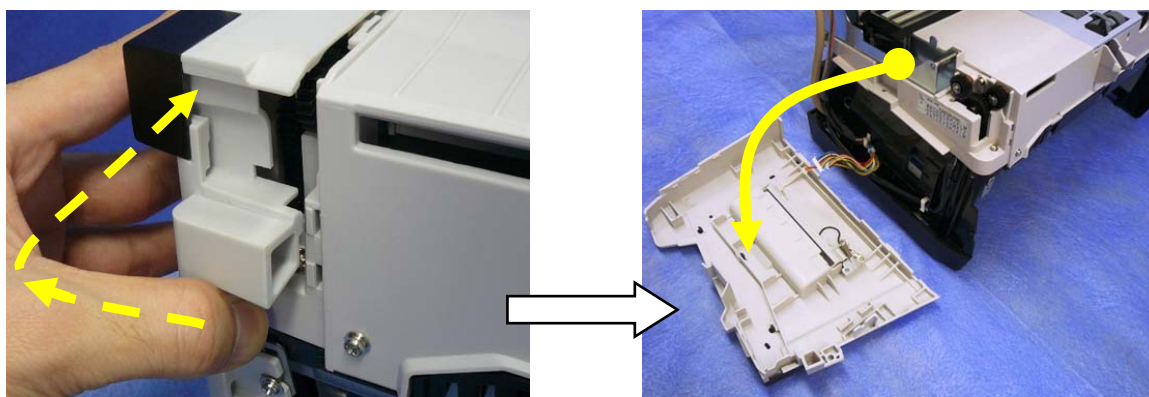
05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
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- (4) Insert a small flat-blade screwdriver into the gap on the other side of the cover, then unlatch the claw.

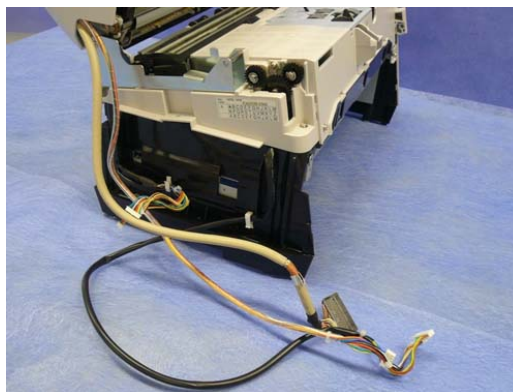


- (5) Open the Side Cover ASSY F, and push it toward the back, then open it downward.

Note: This cover has the cable for the Operator panel connected. Be careful not to damage the cable.



- (6) Remove the signal cable and motor cable in the Front cover from the clamps, and then take the cable connectors out of the frame holes.

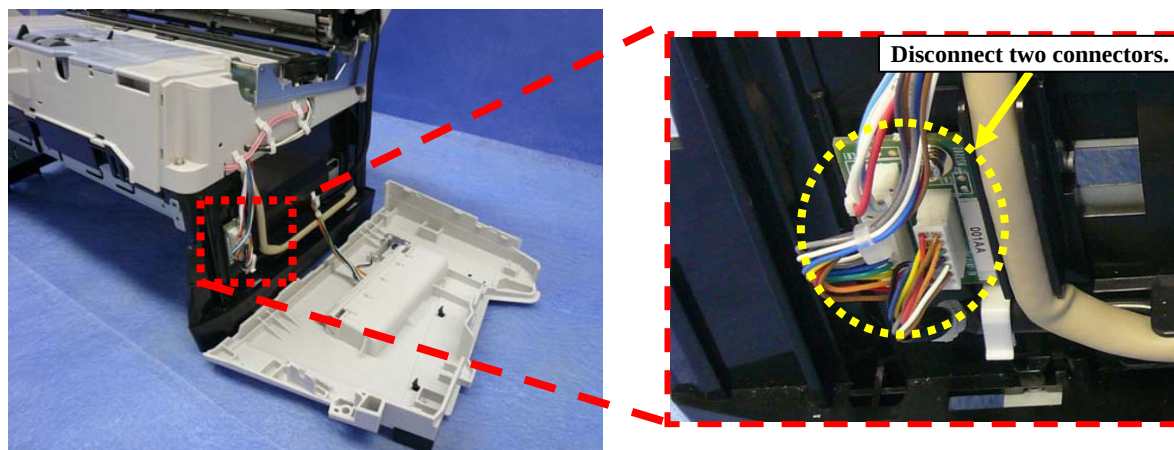


- (7) Open the Side Cover ASSY B in the same way.

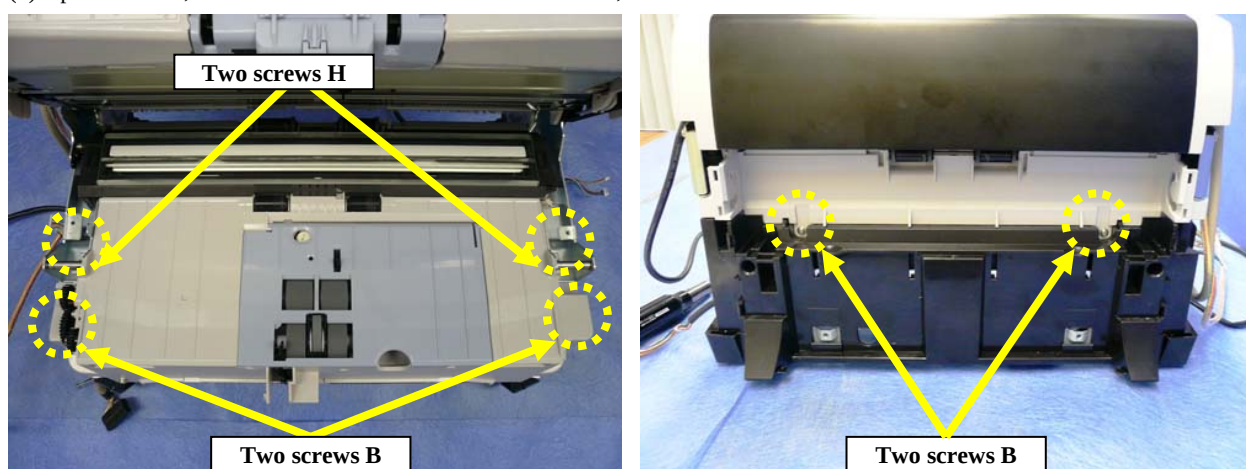
Note: This cover has the cable for the Operator panel connected. Be careful not to damage the cable.

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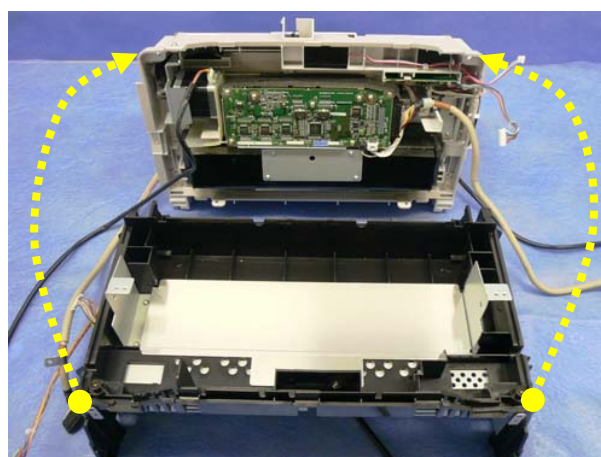
- (8) Remove the CCD cable from the groove. Remove the signal cable from the side frame hole, and disconnect the two small connectors.



- (9) Open the ADF, remove the two screws H and two screws B, and then remove the two screws B on the document exit side.

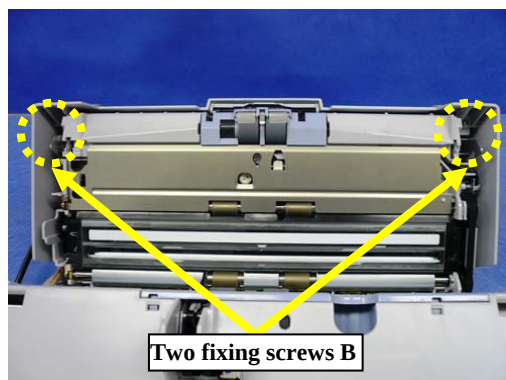


- (10) Lift the frame (ADF Rev Unit and ADF Fix Unit) from the ADF Unit to remove.

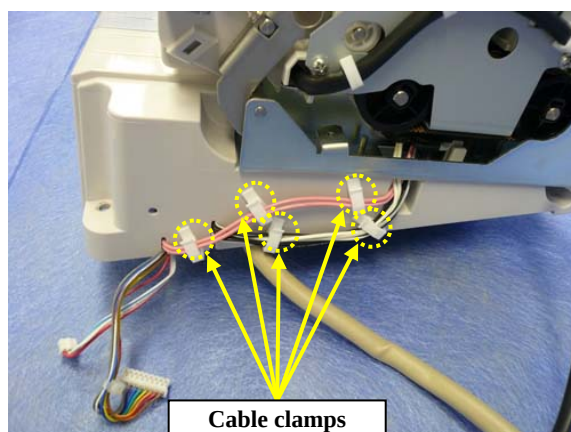


05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual		
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
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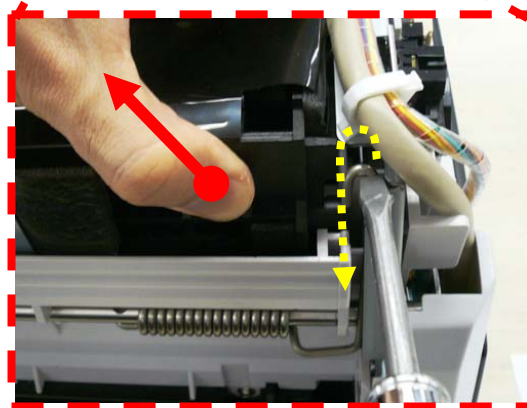
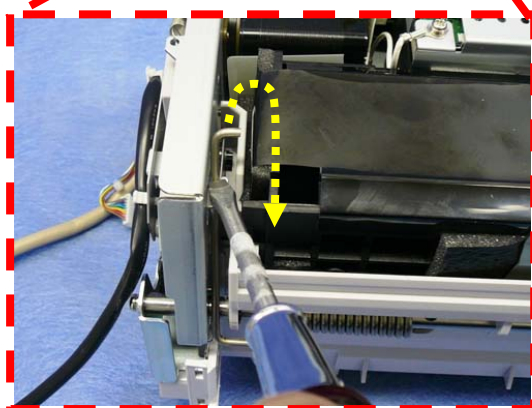
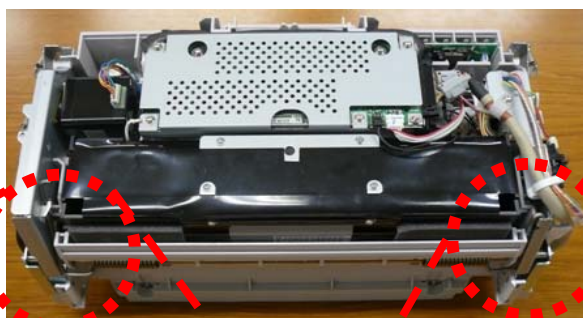
- (11) Open the ADF, and remove the two screws B that secure the ADF cover. Pull out the ADF cover at the document exit side to remove.



- (12) Remove the cable from the cable clamps on the side of the ADF Fix unit.

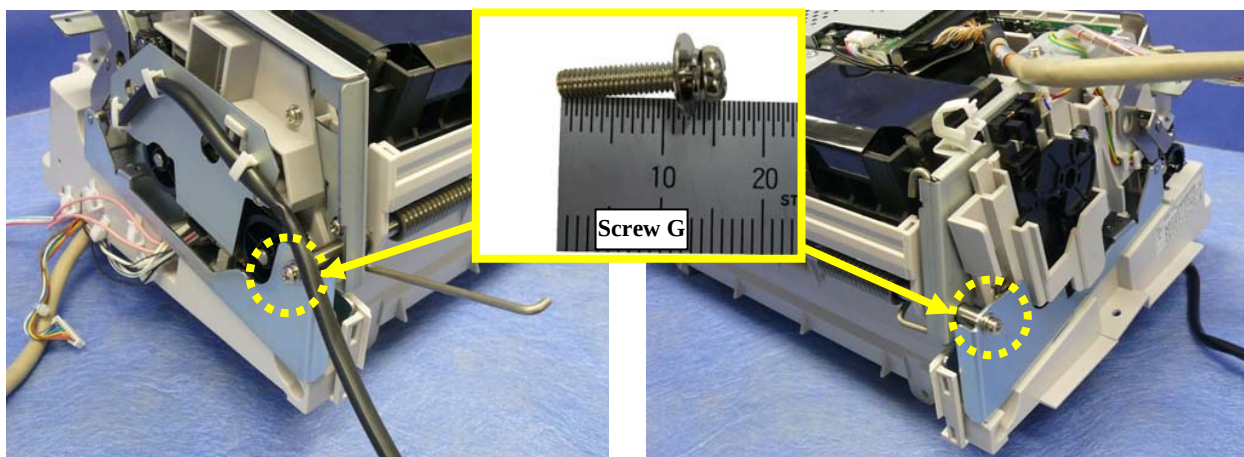


- (13) Release the torsion arm coil spring from the side panel of the frame.
Open the ADF to release the arm easier.



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03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		P1PA03576—B50X/6		
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(14) Remove the two large screws G (one each on the right and left sides) from both sides of the ADF.



(15) With a flat-blade screwdriver, slightly pry open the metal side panel to release the ADF Rev Unit from the ADF Fix Unit.

* The ADF Fix unit is the ADF Fixed side with the Right, Left covers and lower frame attached.
The ADF Rev unit is the ADF movable side with the ADF cover attached.



ADF Fix unit



ADF Rev unit

Note: Be careful not to damage the glass on the ADF Rev unit.

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03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
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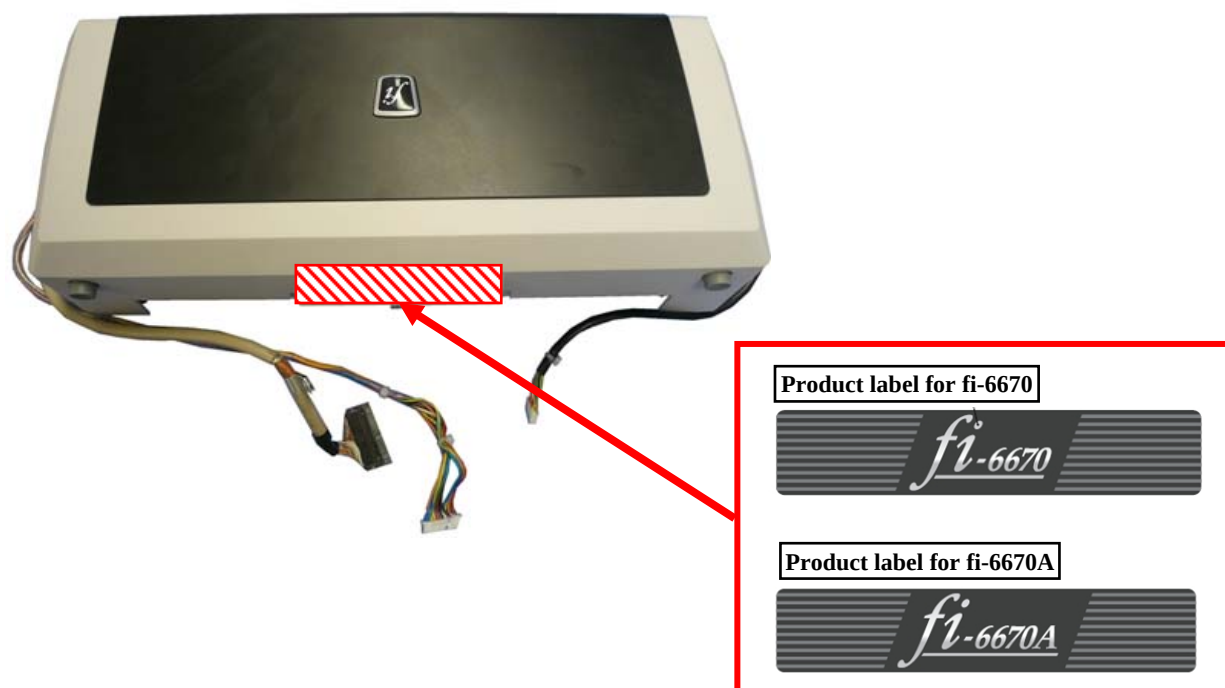
<Installation>

Follow the above procedure in reverse.

Note: For how to install the Panel unit A and Panel unit B, refer to <Installation> in Sections 5.7.4 and 5.7.5.

Replacing the ADF Rev Unit

After replacing the ADF Rev Unit, paste the product label enclosed with this part.



Note: After replacing the ADF Fix unit or ADF Rev unit, perform the magnification adjustment (Section 6.1.3), offset adjustment (Section 6.1.4), white level adjustment (Section 6.1.5) and Ultrasonic sensor adjustment (Section 6.1.9), and reset the consumable counters (Section 6.1.6).

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03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
						Drawing No.	P1PA03576—B50X/6		
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5.10 Paper path

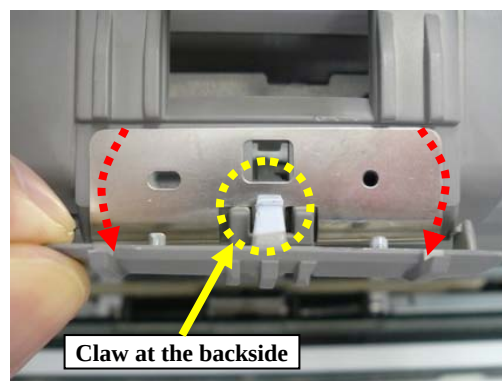
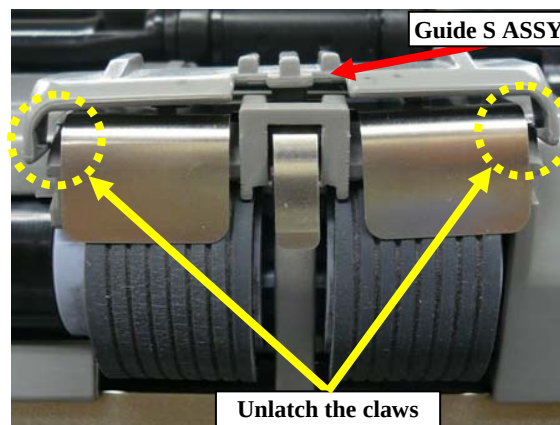
5.10.1 Guide S ASSY

NOTICE

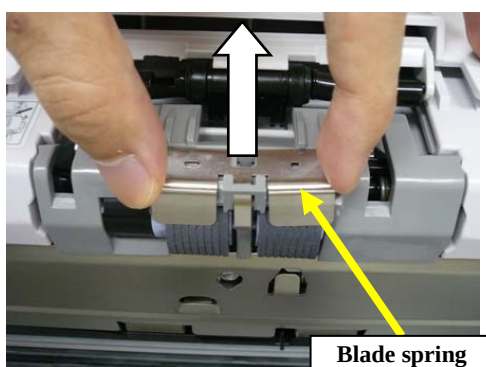
Refer to section 3.11 for the part number of the Guide S ASSY.

<Removal>

- (1) Open the ADF.
- (2) Unlatch the claws on the both sides of the Guide S ASSY, by inserting a small flat-blade screwdriver between the blade spring and plastic part and remove the plastic part by being careful not to break the claw at the back side.



- (3) Remove the blade spring upward.



Guide S ASSY

<Installation>

Follow the above procedure in reverse.

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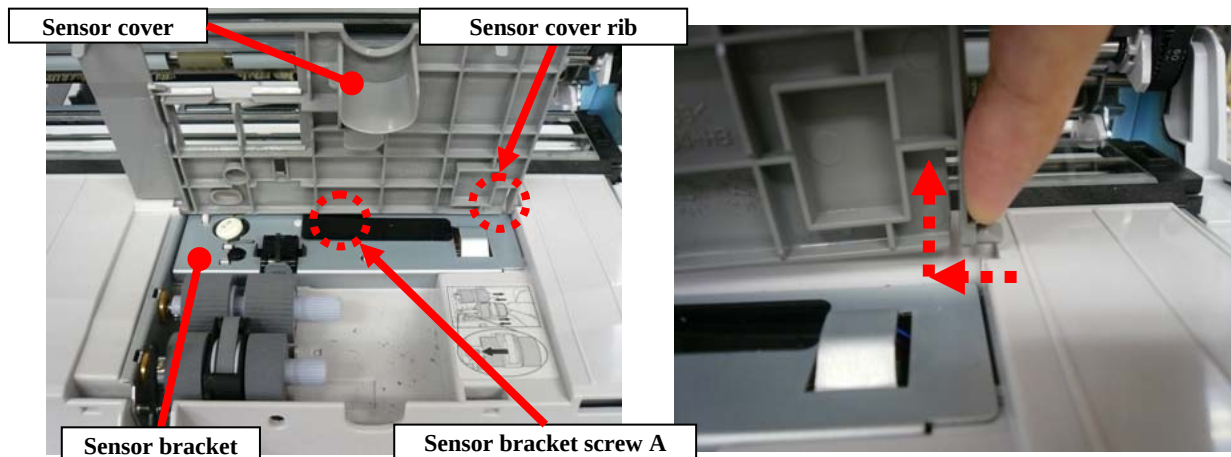
5.10.2 Pick Sensor

NOTICE

Refer to Section 3.9 for the part number of the Pick Sensor.

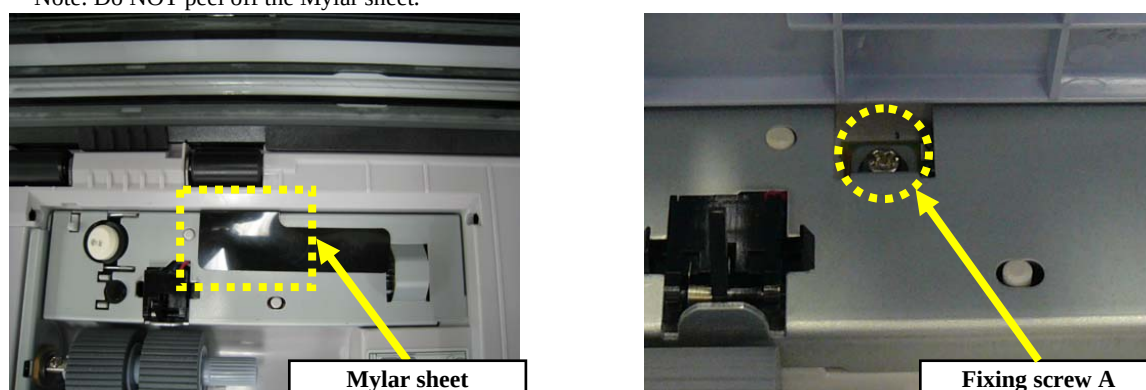
<Removal>

- (1) Open the ADF, open the Sensor cover, and then bow the sensor cover rib to remove the sensor cover.

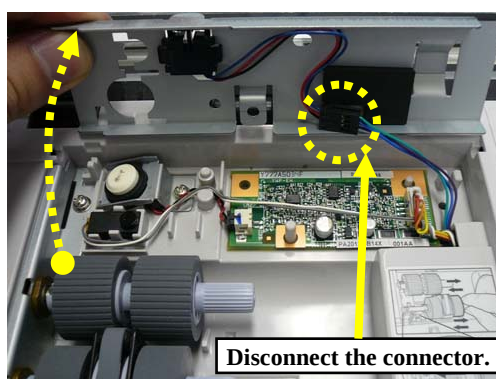


- (2) Tuck up the Mylar sheet pasted on the sensor bracket, and then remove the screw A.

Note: Do NOT peel off the Mylar sheet.

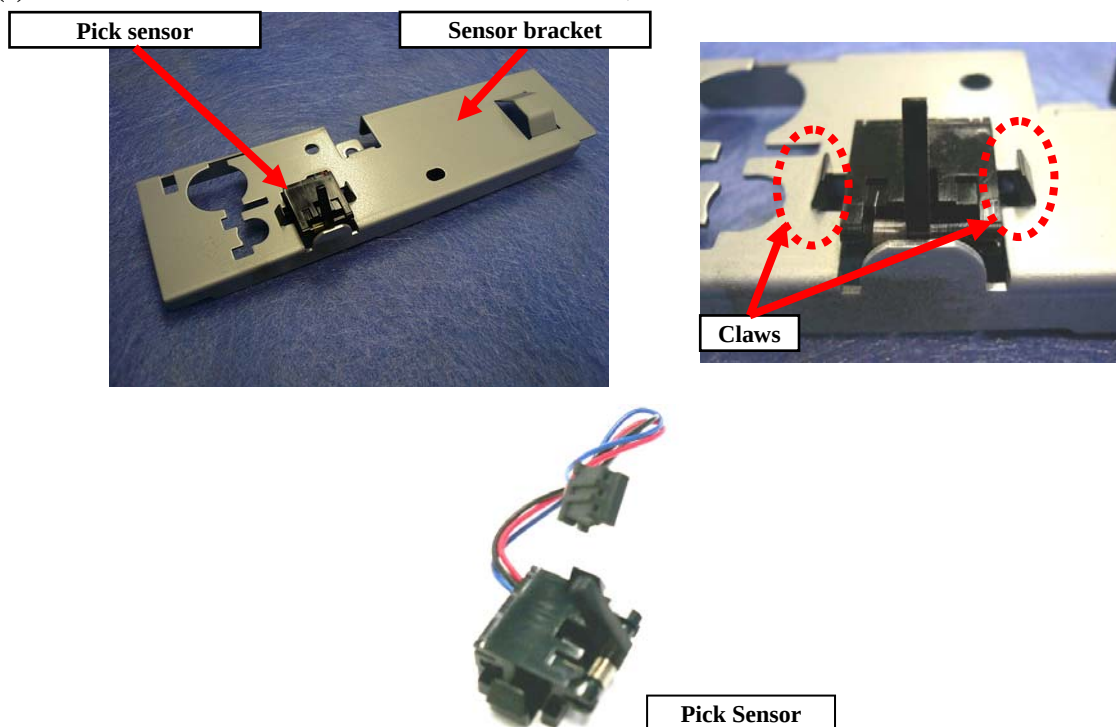


- (3) Turn the Sensor bracket over, and then disconnect the connector to remove the Sensor bracket.



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03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6			
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- (4) Unlatch the claws of the Pick sensor from the sensor bracket, and detach the Pick sensor.

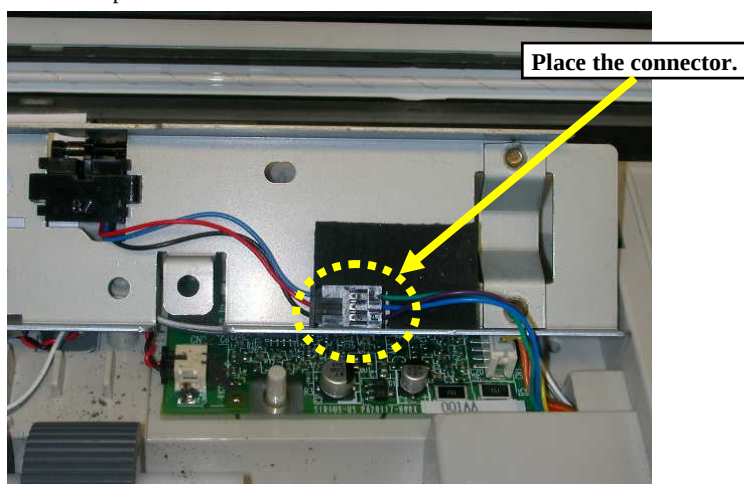


<Installation>

Follow the above procedure in reverse.

NOTICE

1. Make sure that the claws of the Pick sensor are latched on the bracket firmly.
2. Place Fix the connector at the position of the Sensor bracket as shown below.



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03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6			
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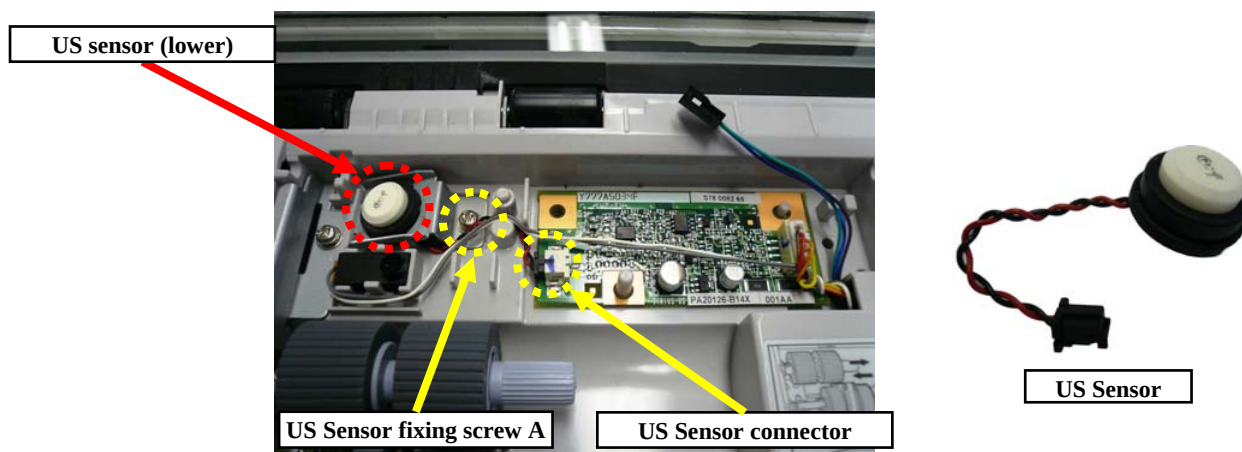
5.10.3 US Sensor (ADF Fix Unit)

NOTICE

Refer to Section 3.6 for the part number of the US Sensor.

<Removal>

- (1) Remove the Sensor bracket by referring to steps (1) ~ (3) in Section 5.10.2.
- (2) Disconnect the US sensor connector from the US PCA.
- (3) Remove the screw A that secures the US sensor, and then remove the bracket and the US sensor. Remove the sensor from the bracket.

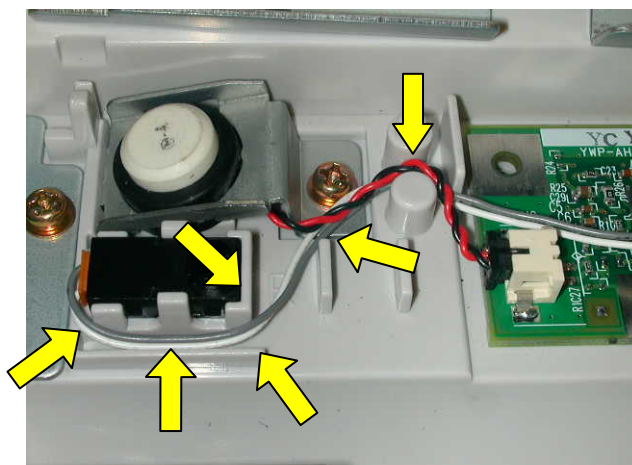


<Installation>

Follow the above procedure in reverse.

NOTICE

1. After replacing the US sensor, perform the Ultrasonic sensor adjustment (Section 6.1.9).
2. Place the cables as shown in the photo below.



3. Refer to <Installation> Notice 2 in Section 5.10.2 for how to install the Sensor bracket.

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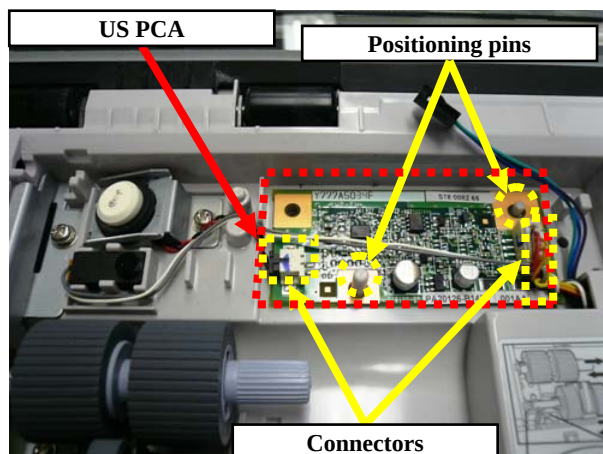
5.10.4 US PCA

NOTICE

Refer to Section 3.7 for the part number of the US PCA.

<Removal>

- (1) Remove the Sensor bracket by referring to steps (1) ~ (3) in Section 5.10.2.
- (2) Disconnect the two connectors from the US PCA under the Paper path, and remove the US PCA.



US PCA

<Installation>

Follow the above procedure in reverse.

NOTICE

1. After replacing the US PCA, perform the Ultrasonic sensor adjustment (Section 6.1.9).
2. Make sure that the positioning pins are inserted in the US PCA holes.
3. Refer to <Installation> Notice 2 in Section 5.10.3 for how to place the cables.
4. Refer to <Installation> Notice 2 in Section 5.10.2 for how to install the Sensor bracket.

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5.10.5 Sensor (Empty Sensor)

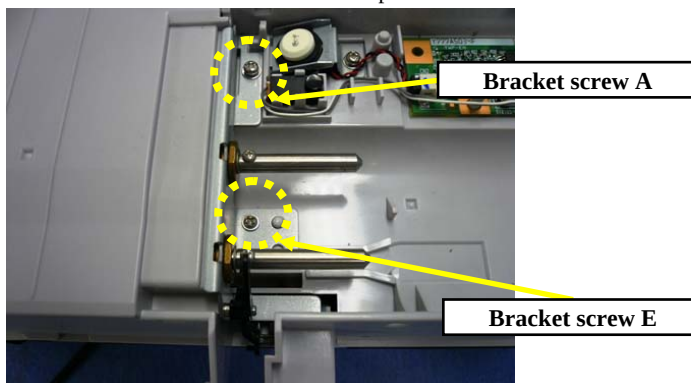
NOTICE

Refer to Section 3.8 for the part number of the Empty Sensor.

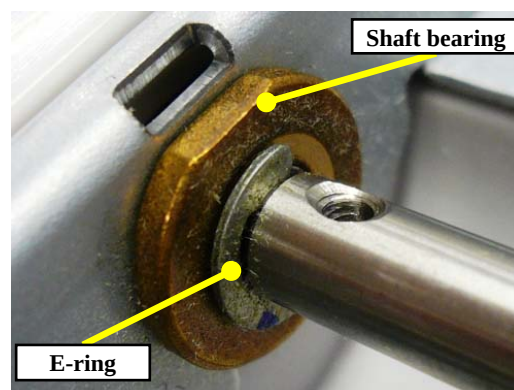
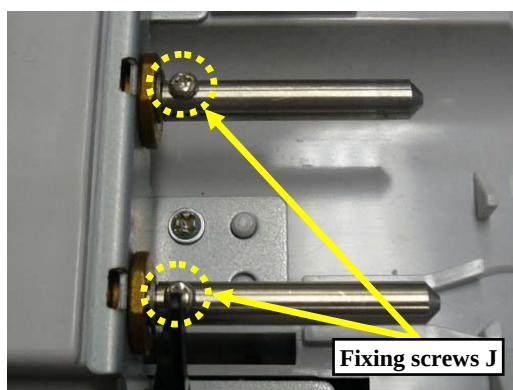
<Removal>

Note: A small Phillips screwdriver (for M2 screws) is required for replacing this part.

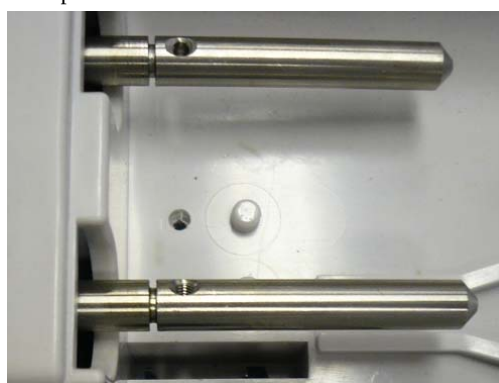
- (1) Remove the Sensor bracket by referring to steps (1) ~ (3) in Section 5.10.2.
- (2) Remove the screw A and the screw E for the bracket which holds the pick roller shaft.



- (3) Remove the two screws J and E ring from each pick roller shaft, and then pull the shaft bearings off the shafts.

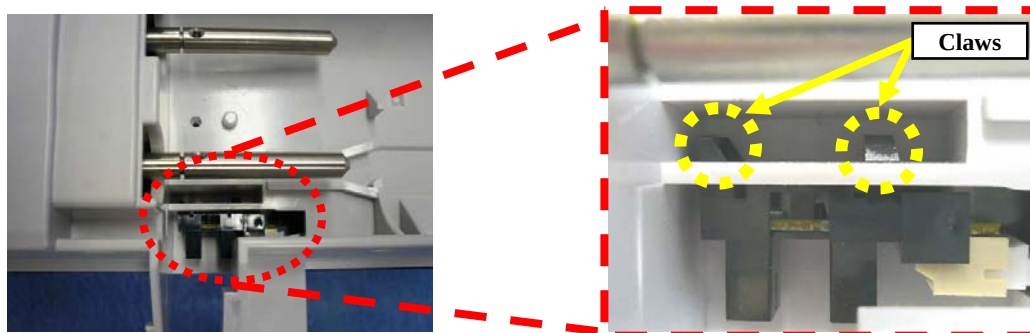


- (4) Remove the bracket that supports the pick roller shafts.

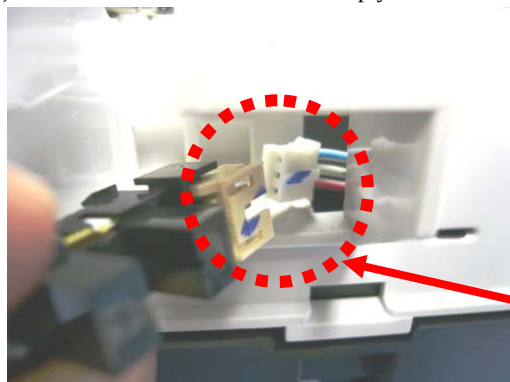


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03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6			
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- (5) Unlatch the Empty sensor claw using a small flat-blade screwdriver, and then remove the Empty sensor.



- (6) Disconnect the cable from the Empty sensor.



Sensor

Disconnect the connector.

<Installation>

Follow the above procedure in reverse.

05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.					
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6			
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5.10.6 US Sensor (ADF Rev Unit)

NOTICE

Refer to Section 3.6 for the part number of the US Sensor.

<Removal>

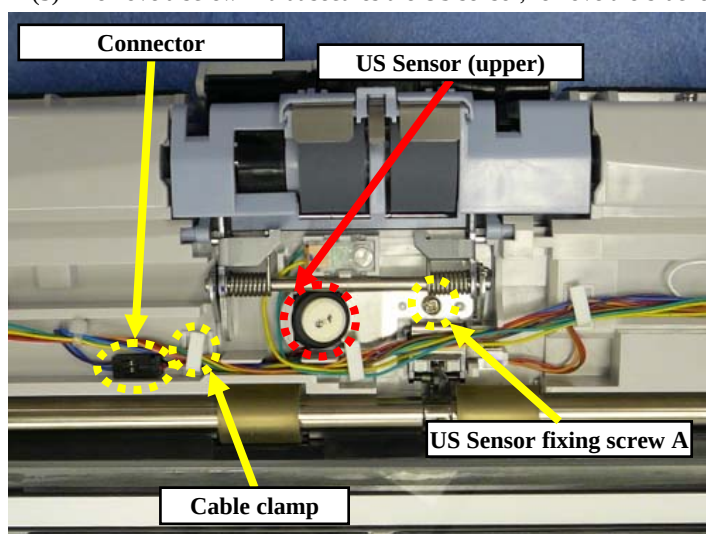
- (1) Open the ADF, and remove the three fixing screws A in the photos below to remove the upper Sheet guide.



NOTICE

When removing/installing the upper Sheet guide, be careful not to drop it. Otherwise, the scanning glass may be damaged.

- (2) Remove the US sensor (upper) cable from the cable clamp and disconnect its connector.
- (3) Remove a screw A that secures the US sensor, remove the bracket and the US sensor.



<Installation>

Follow the above procedure in reverse.

NOTICE

After replacing the US sensor, perform the Ultrasonic sensor adjustment (Section 6.1.9).

05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual		
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
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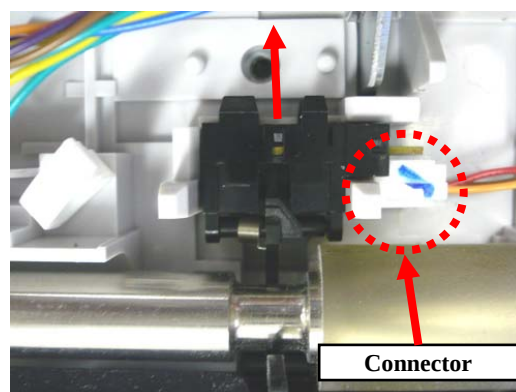
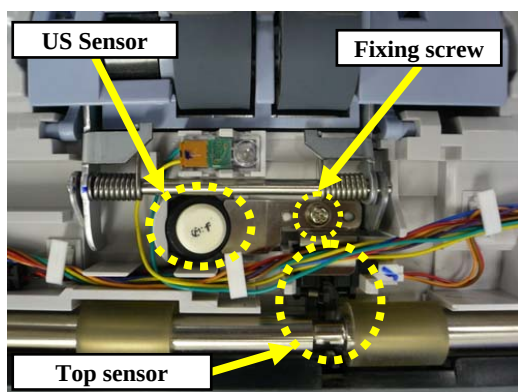
5.10.7 Top Sensor (ADF Rev Unit)

NOTICE

Refer to Section 3.17 for the part number of the Top Sensor.

<Removal>

- (1) Referring to step (1) in Section 5.10.6, remove the upper Sheet guide.
- (2) Remove the screw A that secures the US sensor, and then remove the bracket.
- (3) Remove the Top sensor (lower right photo), and then disconnect a connector to remove the Top sensor.



<Installation>

Follow the above procedure in reverse.

NOTICE

1. Make sure that the Top sensor lever moves smoothly after installation.
2. After replacing the Top sensor, perform offset adjustment (Section 6.1.4).

05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual		
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
						Drawing No.	P1PA03576—B50X/6		
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						APPR.	I.Fujioka		

5.10.8 DF Sensor

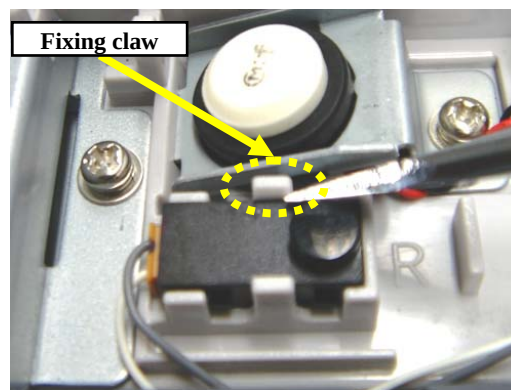
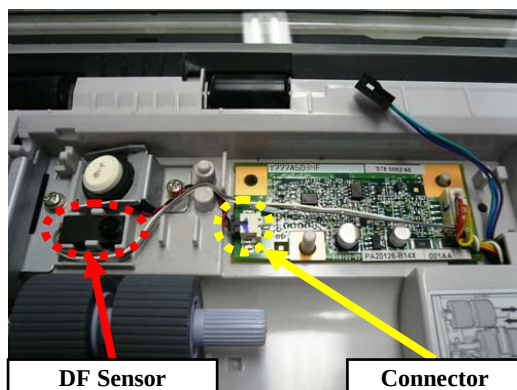
NOTICE

Refer to Section 3.10 for the part number of the DF Sensor.

<Removal>

Removing DF Sensor (black) on the ADF Fix Unit

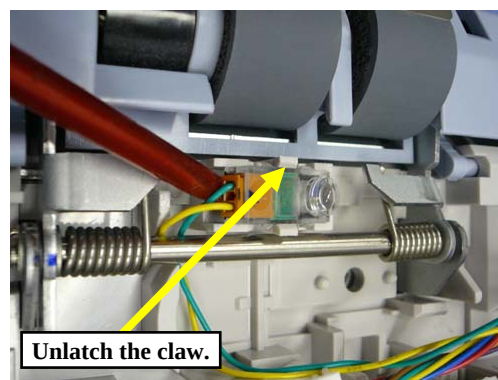
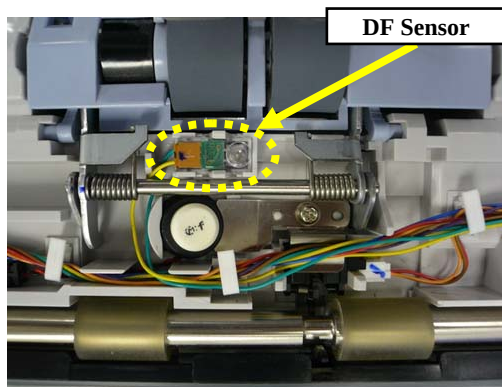
- (1) Referring to steps (1) ~ (3) in Section 5.10.2, remove the Sensor bracket.
- (2) Disconnect the lower DF sensor connector, unlatch the DF sensor claw, and remove the DF sensor (black).



**DF Sensor for front side scanning (black)
On the ADF Fix Unit**

Removing DF Sensor (transparent) on the ADF Rev Unit

- (3) Referring to step (1) in Section 5.10.6, remove the upper Sheet guide.
- (4) Disconnect an upper DF sensor connector, unlatch the DF sensor claw, and then remove the DF sensor (transparent).



**DF Sensor for backside scanning (transparent)
On the ADF Rev Unit**

<Installation>

Follow the above procedure in reverse.

NOTICE

The DF sensor consists of two parts; the DF sensor (on the ADF Fix Unit) is black and the DF sensor (on the ADF Rev Unit) is transparent. Do not confuse them when installing.

05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.			Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.							
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.			Drawing No.	P1PA03576—B50X/6			
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5.11 Parts in the ADF cover

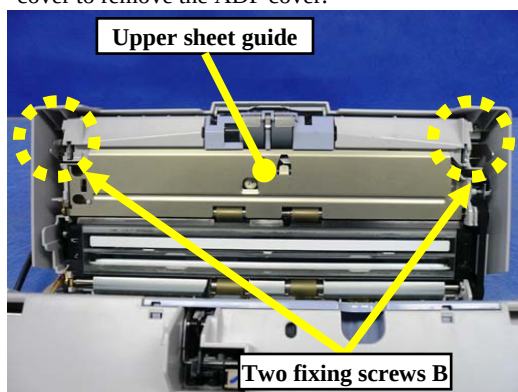
5.11.1 Inverter (for ADF backside scanning)

NOTICE

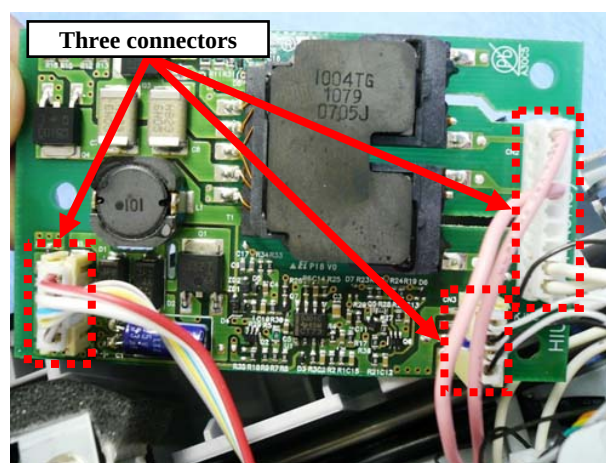
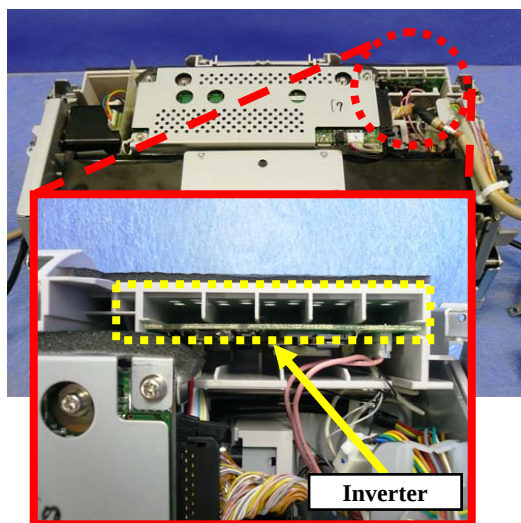
Refer to Section 3.5 for the part number of the Inverter.

<Removal>

- (1) Open the ADF and remove the two screws B that secure the ADF cover. Pull out on the document exit side of the ADF cover to remove the ADF cover.



- (2) Lifting up the Inverter from the groove, disconnect the three connectors connected on the Inverter, and remove the Inverter.



Inverter

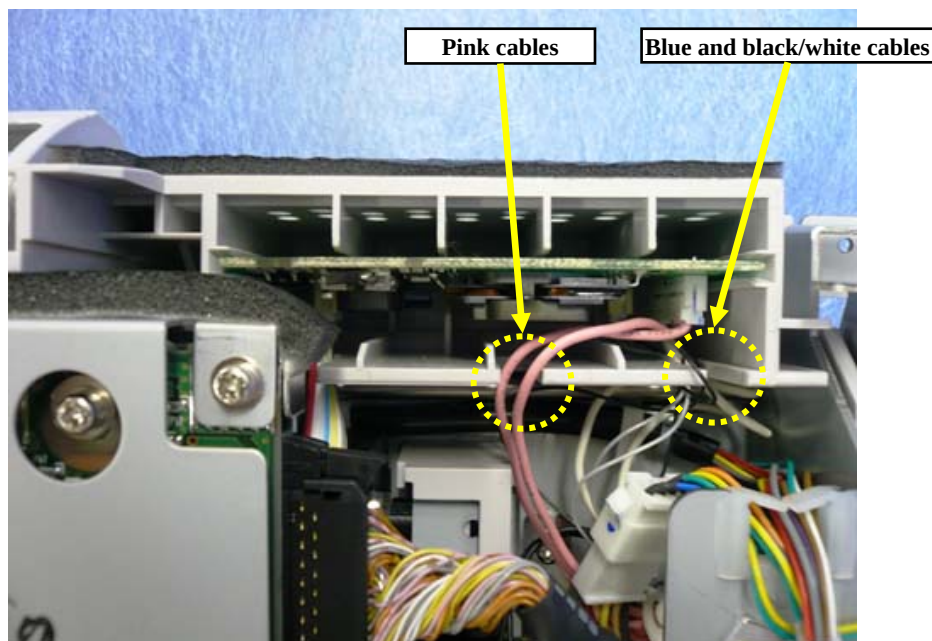
05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual		
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6		
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
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<Installation>

Follow the above procedure in reverse.

NOTICE

Insert the pink and blue cables and the thin black/white cable to be connected to the Inverter into the respective grooves as shown below.



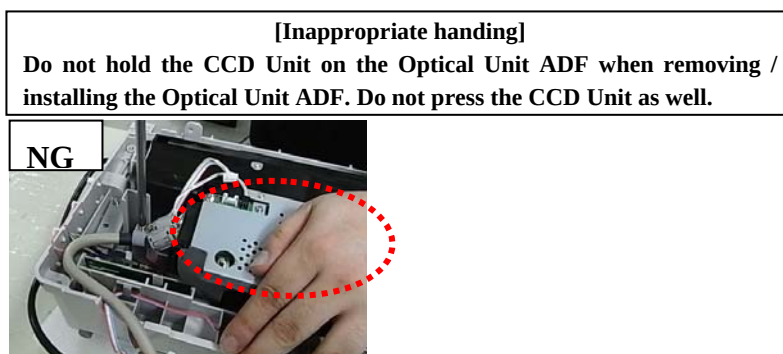
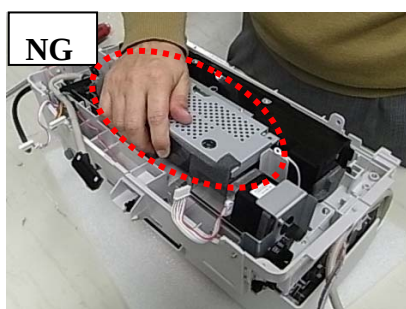
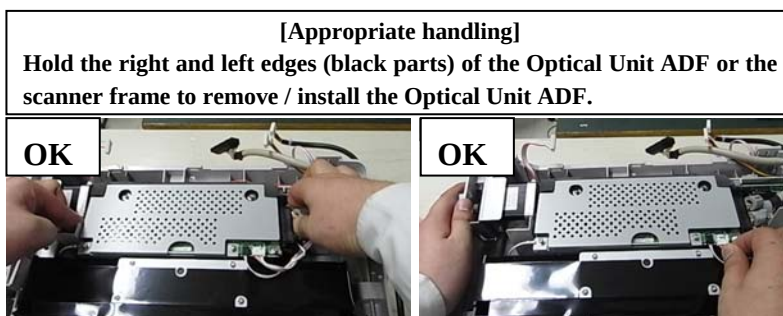
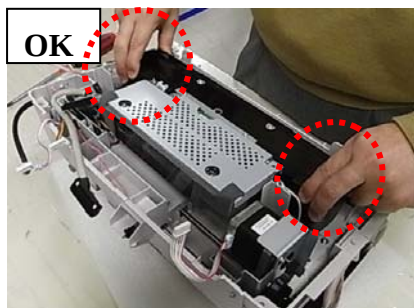
05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual		
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
						Drawing No.	P1PA03576—B50X/6		
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						APPR.	I.Fujioka		

5.11.2 Optical Unit ADF (backside optical system)

04

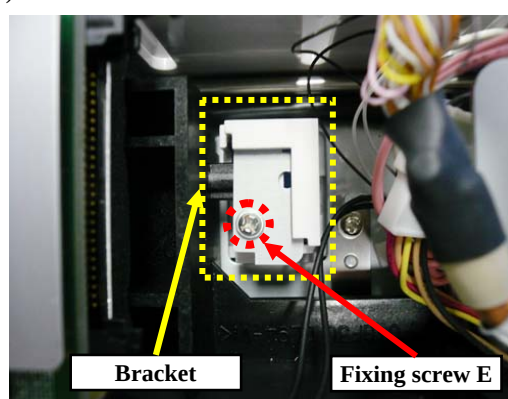
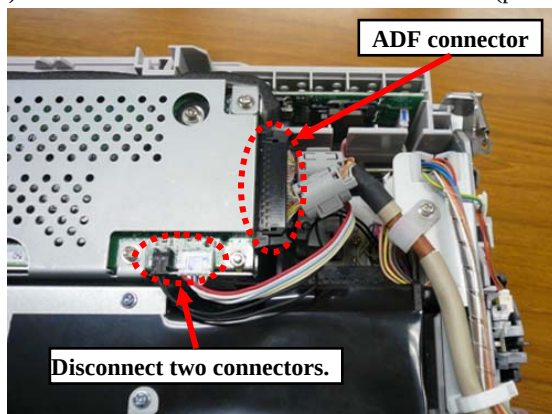
 NOTICE

- 1) Refer to Section 3.19 for the part number of the Optical Unit ADF.
- 2) **When removing/installing the Optical Unit ADF, do not hold the CCD Unit or work by pressing it. Otherwise the Optical Unit ADF may be damaged or fail to operate properly.**



<Removal>

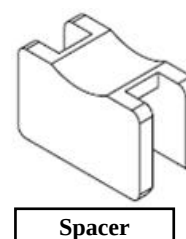
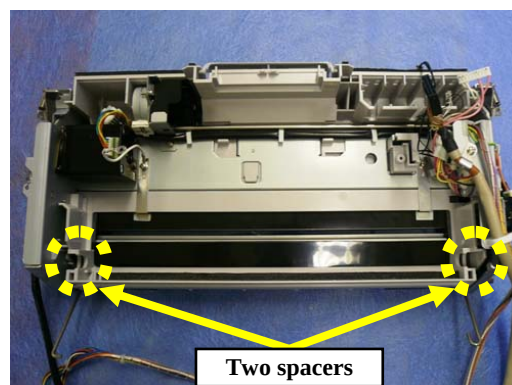
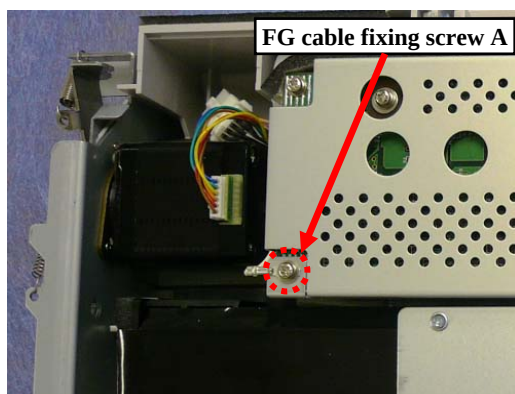
- (1) Remove the ADF cover by referring to step (1) in Section 5.11.1.
- (2) Disconnect the one large and the two small connectors from the Optical unit ADF.
- (3) Remove the screw E which secures the bracket (photo below) to remove the bracket.



05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual		
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6		
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
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- (4) Remove the screw A for the FG cable on the Optical unit ADF, and lift the Optical unit ADF out of the ADF Rev Unit.

Note: When removing the Optical unit ADF (for backside scanning), do not lose two spacers at the positions in the photo lower right. If you lost them, use "OPT SPACER B" enclosed with the Optical unit ADF.

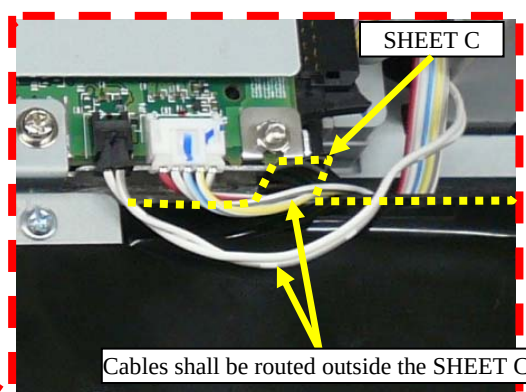
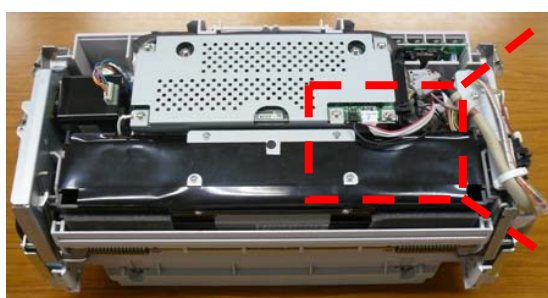


<Installation>

Follow the above procedure in reverse.

NOTICE

- 1) Be careful not to touch the mirrors on the Optical unit ADF.
- 2) After replacing the Optical unit ADF, perform the Offset adjustment (Section 6.1.4) and White level adjustment (Section 6.1.5).
- 3) Route the Inverter cable and thermistor cable outside the SHEET C so that they do not touch the metal part of the Optical unit ADF.



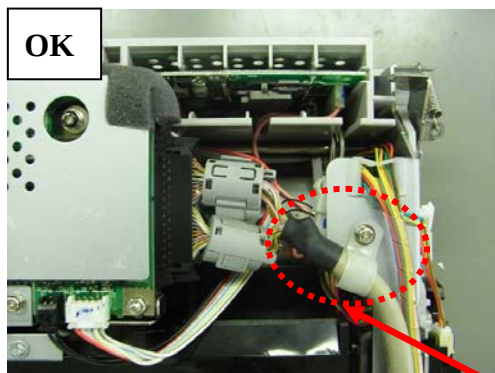
05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR		
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		Maintenance Manual		
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		P1PA03576—B50X/6		
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04

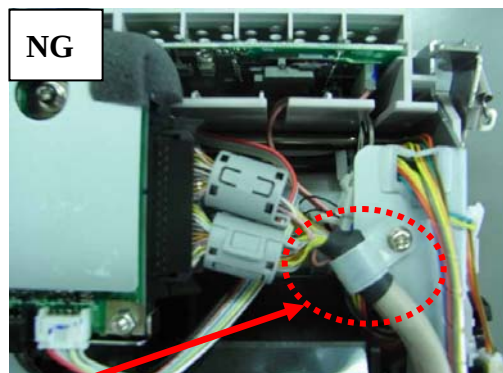
- 4) Make sure that the nylon clip fixing position and wiring is as shown in the photo below when installing the ADF Cable (connector).



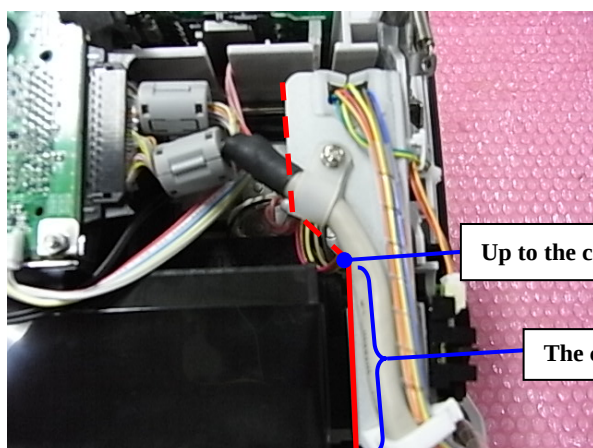
OK



NG



Do not fix the tube part (black) with the nylon clip.



Up to the corner of the plate

The cable should come on the plate in this area.

NG ← → OK

05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual				
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		Drawing No.	P1PA03576—B50X/6			
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.						
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5.11.3 BW Motor (for driving pick arm) / Sensor (for detecting pick arm position)

NOTICE

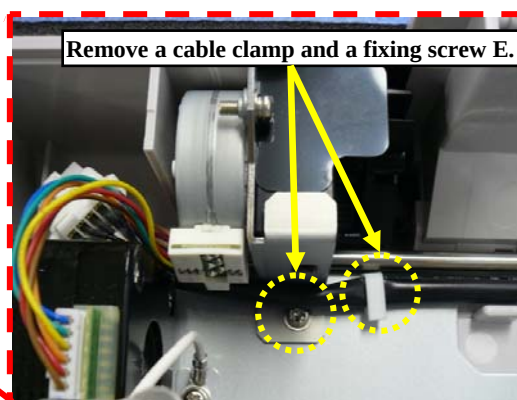
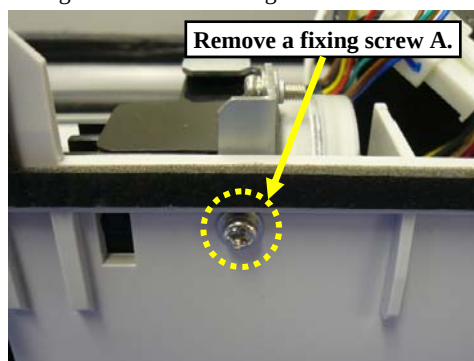
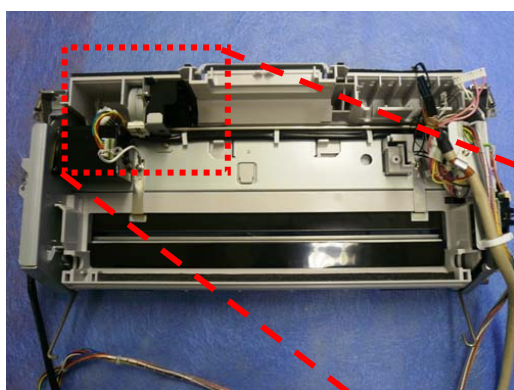
Refer to the following sections for the part numbers of replacement parts.

BW motor: Section 3.14

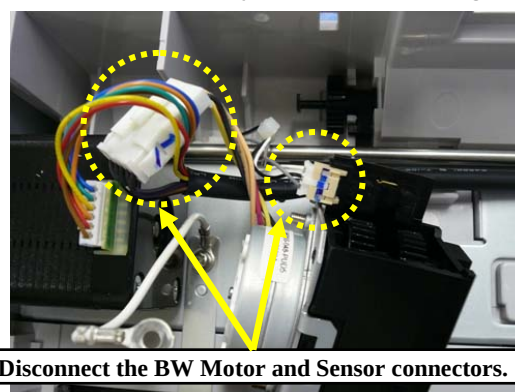
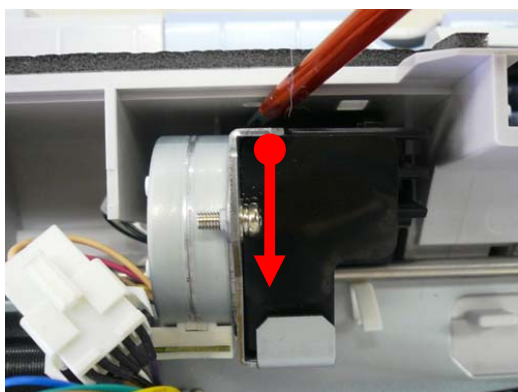
Sensor: Section 3.8

<Removal>

- (1) Remove the ADF cover by referring to step (1) in section 5.11.1.
- (2) Remove the Optical unit ADF by referring to steps (2) ~ (4) in Section 5.11.2.
- (3) Remove the cable from the cable clamp, and then remove the fixing screw A and a fixing screw E.



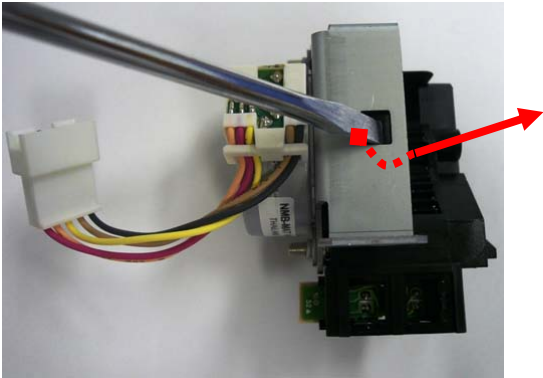
- (4) Insert a small flat-blade screwdriver into the gap between the frame and gearbox, and then release the gearbox from the frame.
- (5) Disconnect the connectors of the BW motor and the Sensor, and then remove the assembly of BW motor and the gear.



05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual		
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
Rev.	D A T E	DESIG.	CHECK	APPR.	DESCRIPTION	Drawing No.	P1PA03576—B50X/6		
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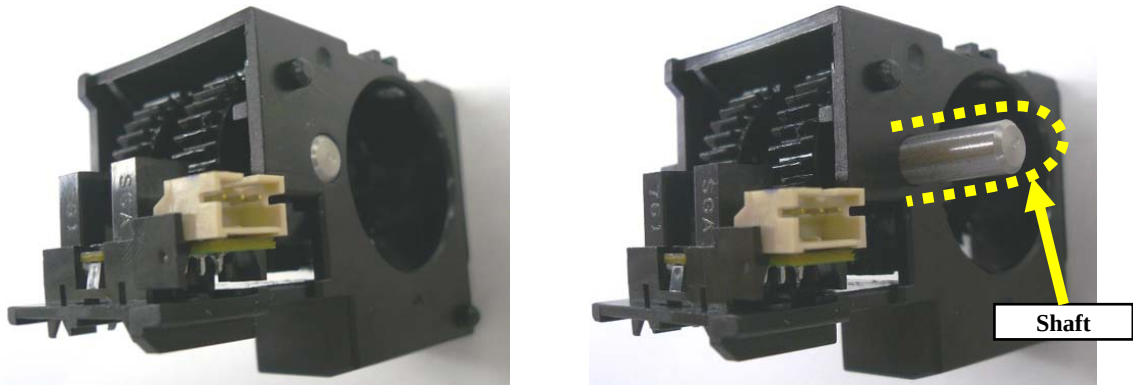
<Replacing BW Motor>

(6) Using a small flat-blade screwdriver, release the BW motor claw to remove the gear box.

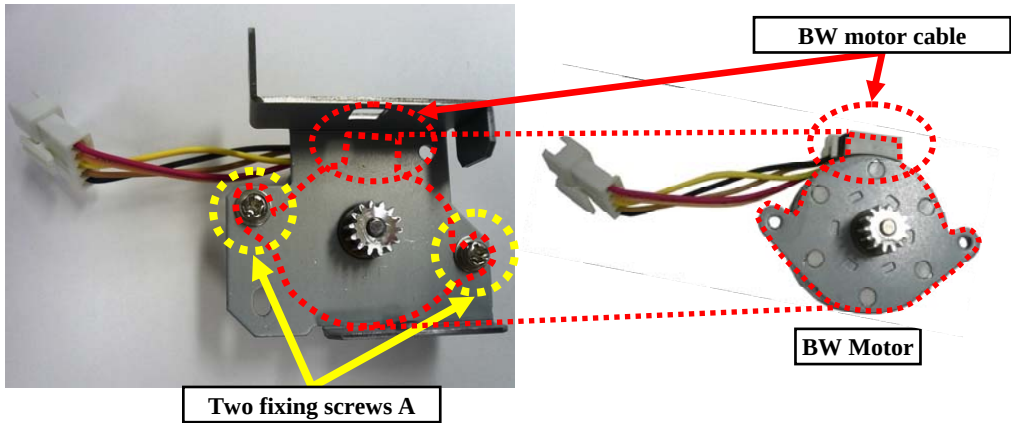


 NOTICE

Make sure that the shaft does not come off the gearbox and fall off. (See photo below.)



(7) Remove two screws A from the bracket to remove the BW motor.



<Installation>

Follow the above procedure in reverse.

 NOTICE

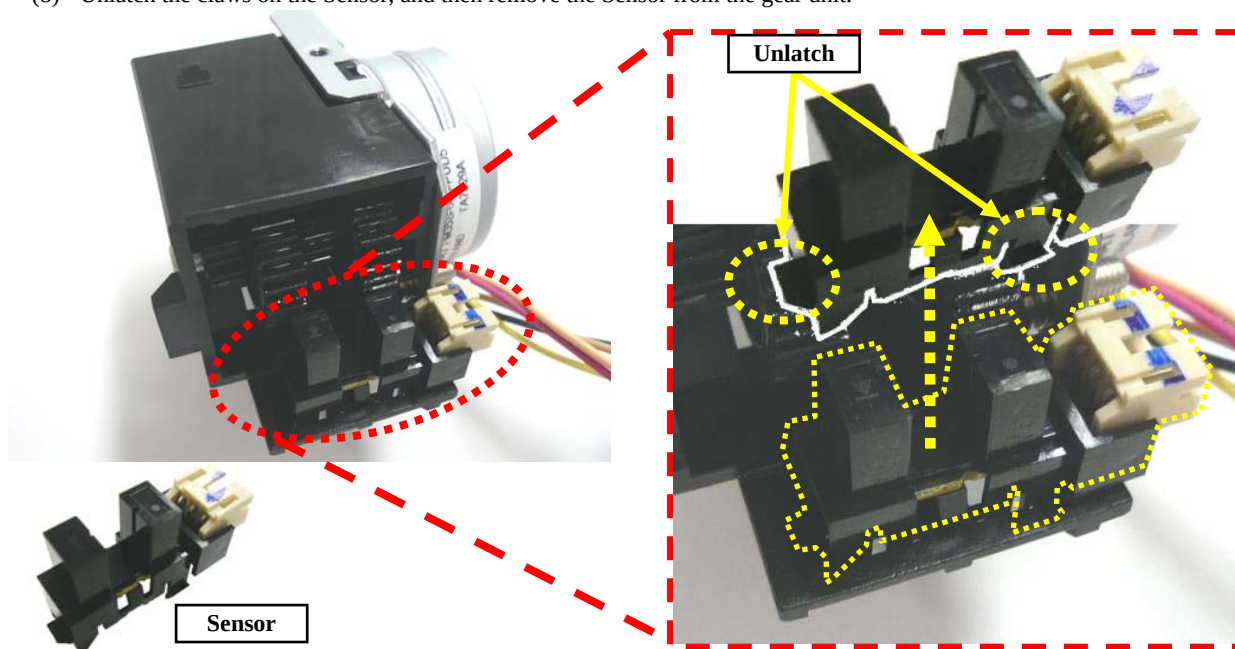
When installing the BW motor, pay attention to the cable positions.

05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR		
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		Maintenance Manual		
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		P1PA03576—B50X/6		
						Drawing No.			
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<Replacing Pick Arm Sensor>

Follow the procedure below after step (5).

- (8) Unlatch the claws on the Sensor, and then remove the Sensor from the gear unit.



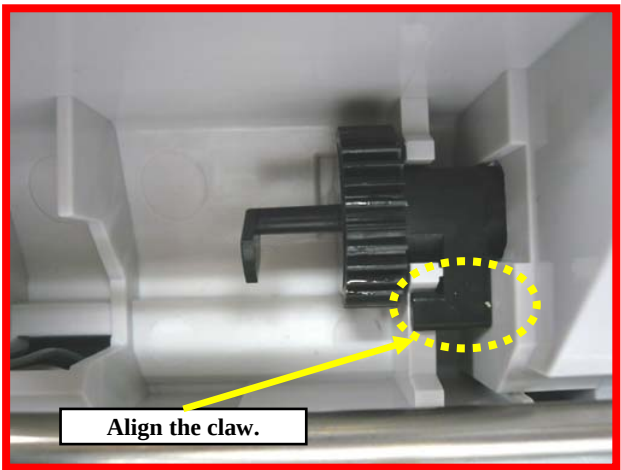
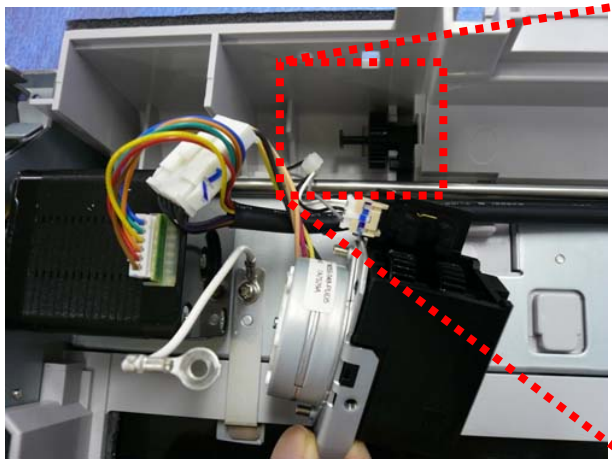
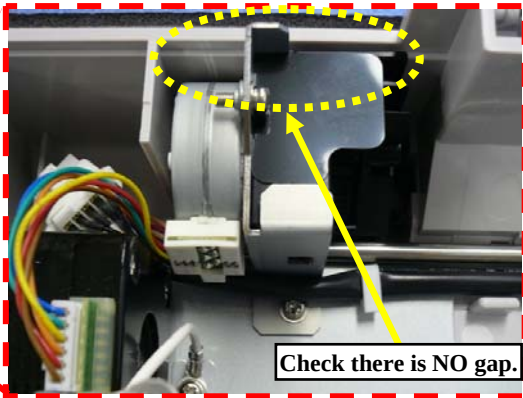
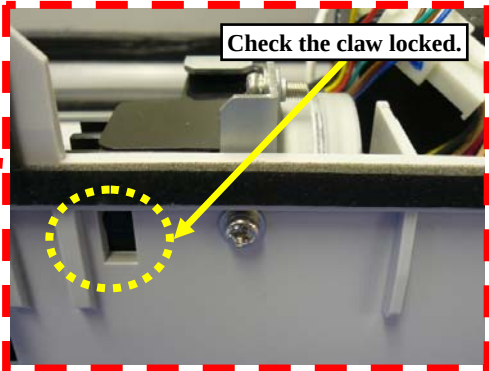
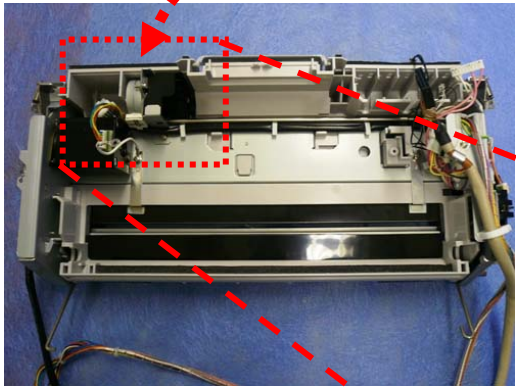
05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.					
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6			
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<Installation>

Follow the above procedure in reverse.

 NOTICE

1. Be careful not to pinch any cables.
2. Make sure that the claw is securely locked and there is no gap between the arm unit and the frame.
3. When installing the frame and gear box, align the claw of the gear part for the Pick arm sensor arm with the frame. Otherwise, the parts may be damaged.



05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR		
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		Maintenance Manual		
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		P1PA03576—B50X/6		
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5.11.4 Feed Motor / Belt ADF

NOTICE

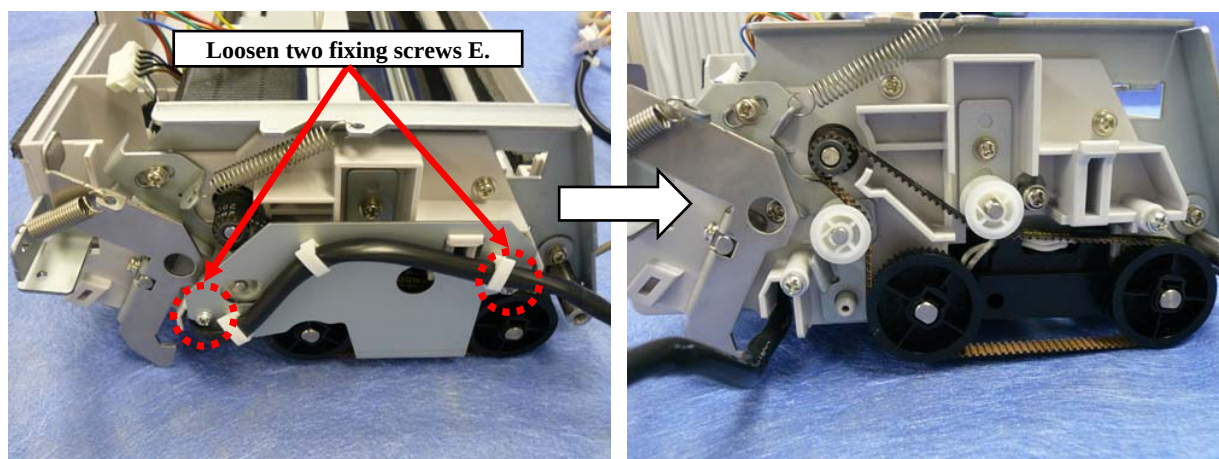
Refer to the following sections for the part numbers of replacement parts.

Feed motor: Section 3.15

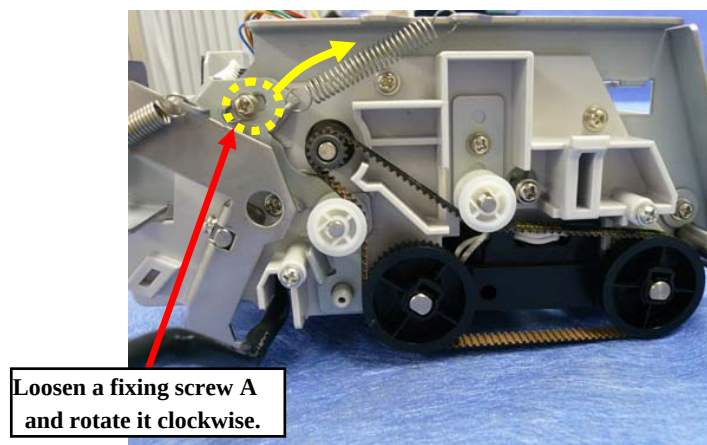
Belt ADF: Section 3.16

<Removal>

- (1) Remove the ADF cover by referring to step (1) in Section 5.11.1.
- (2) Referring to steps (2) ~ (4) in Section 5.11.2, remove the Optical unit ADF.
- (3) Loosen the two screws E that secure the Belt ADF cover (no need to remove) and remove the cover out of the way.

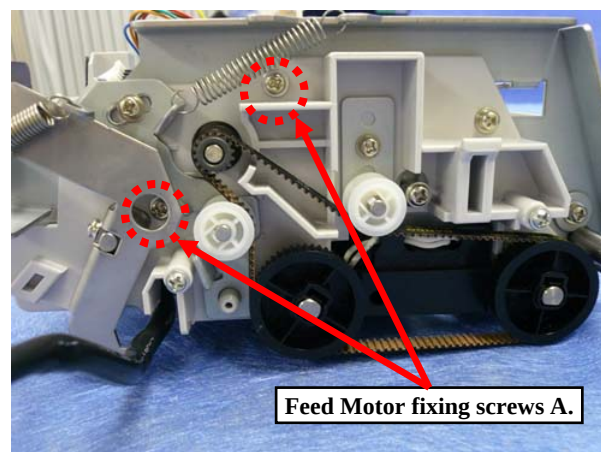
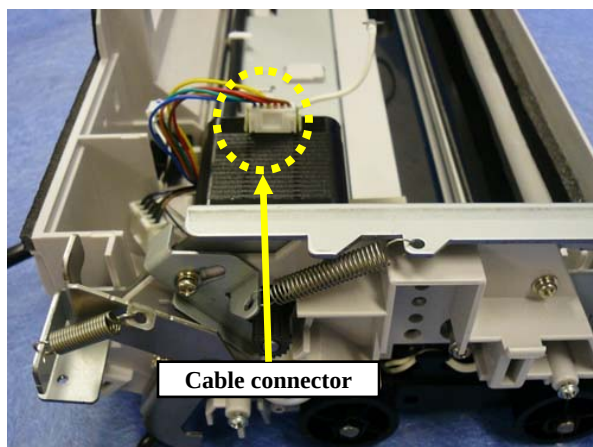


- (4) Loosen the tension bracket screw A, and rotate the bracket clockwise to loosen the belt tension. Remove the Belt ADF if necessary.



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03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6		
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- (5) Disconnect the cable from the Feed motor. Remove the two screws A that secure the Feed motor to remove.

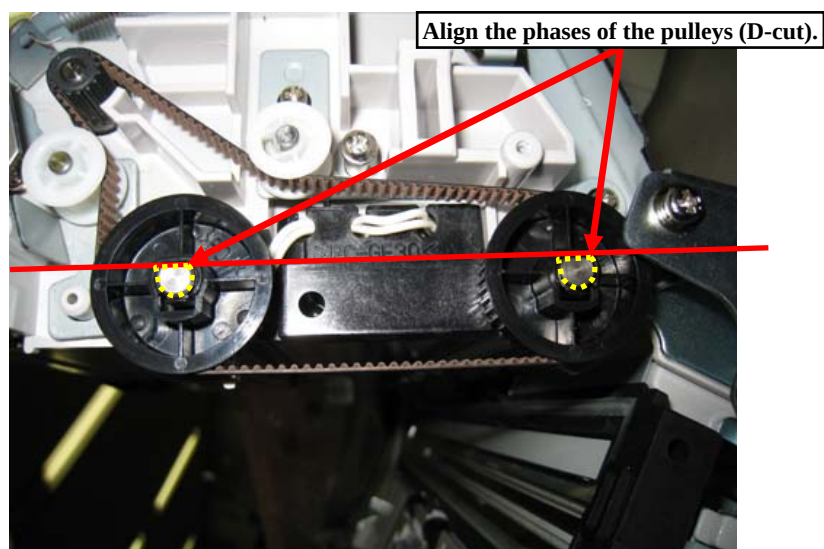


<Installation>

Follow the above procedure in reverse.

NOTICE

1. When installing the Belt ADF, align the phases of the pulleys (D-cut) as shown below.



2. When installing the Belt ADF cover, make sure that the cover is hung on the hook.
3. After replacing the Feed motor or Belt ADF, perform the sub-scanning magnification adjustment (Section 6.1.3) and offset adjustment (Section 6.1.4).

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04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.					
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6			
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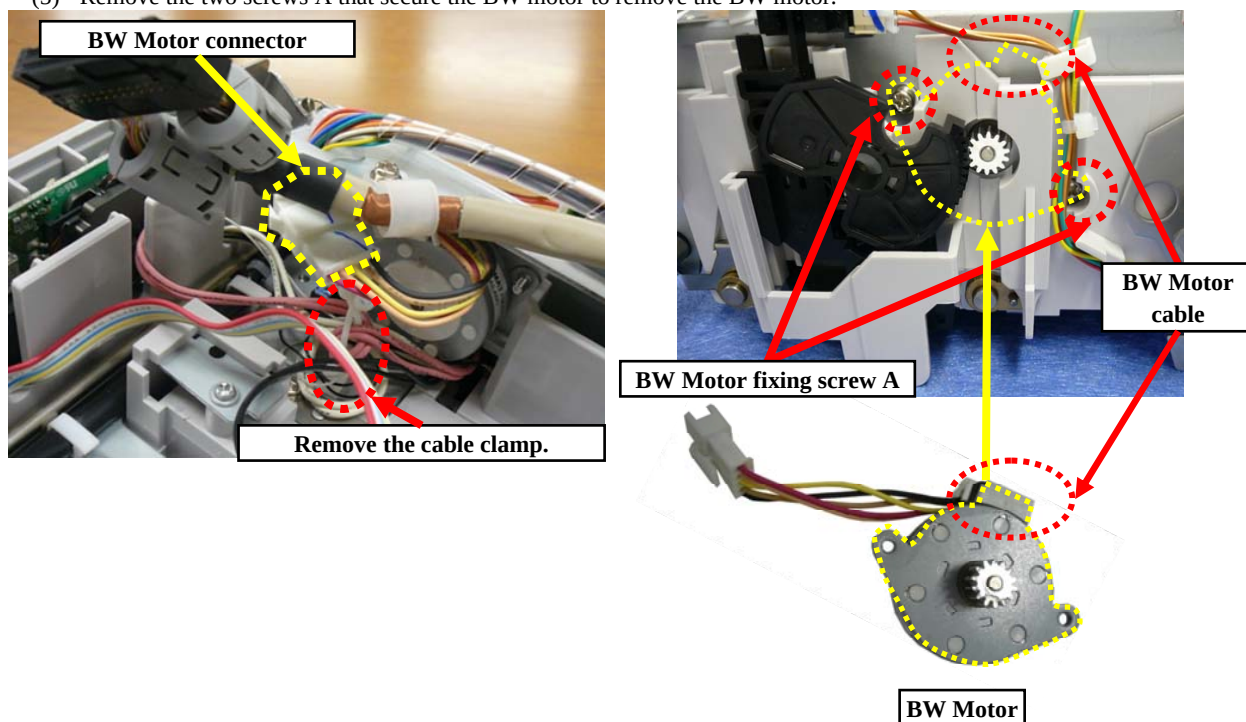
5.11.5 BW Motor (for driving background switch mechanism)

NOTICE

Refer to Section 3.14 for the part number of the BW Motor.

<Removal>

- (1) Remove the ADF cover by referring to step (1) in Section 5.11.1.
- (2) Remove the Optical unit ADF by referring to steps (2) ~ (4) in Section 5.11.2.
- (3) Remove the cables from the cable clamp behind the motor.
- (4) Disconnect the connector from the BW motor.
- (5) Remove the two screws A that secure the BW motor to remove the BW motor.



<Installation>

Follow the above procedure in reverse.

NOTICE

When installing the BW motor, pay attention to the cable positions.

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04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
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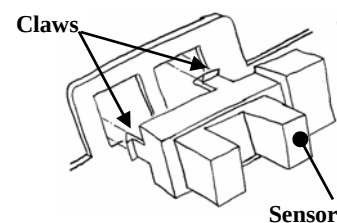
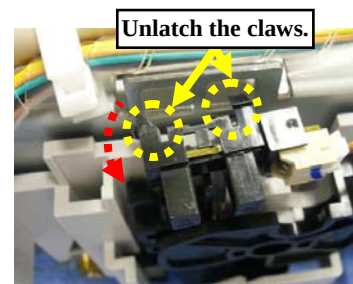
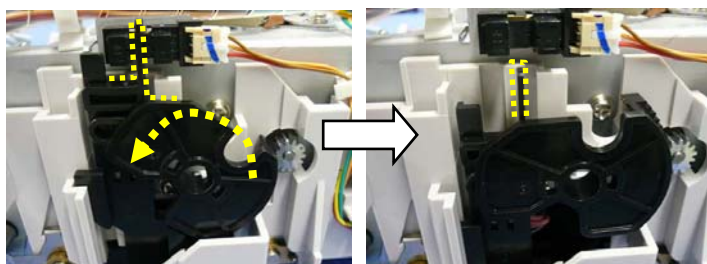
5.11.6 Sensor (for detecting background position)

NOTICE

Refer to Section 3.8 for the part number of the Sensor.

<Removal>

- (1) Remove the ADF cover by referring to steps (1) in Section 5.11.1.
- (2) Rotate the large gear counterclockwise, and then lower the arm below the Sensor position.
- (3) Disconnect the cable connected to the Sensor and unlatch the claws of the Sensor to remove the sensor.



<Installation>

Follow the above procedure in reverse.

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04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
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5.11.7 Sensor OP

NOTICE

Refer to Section 3.18 for the part number of the Sensor OP.

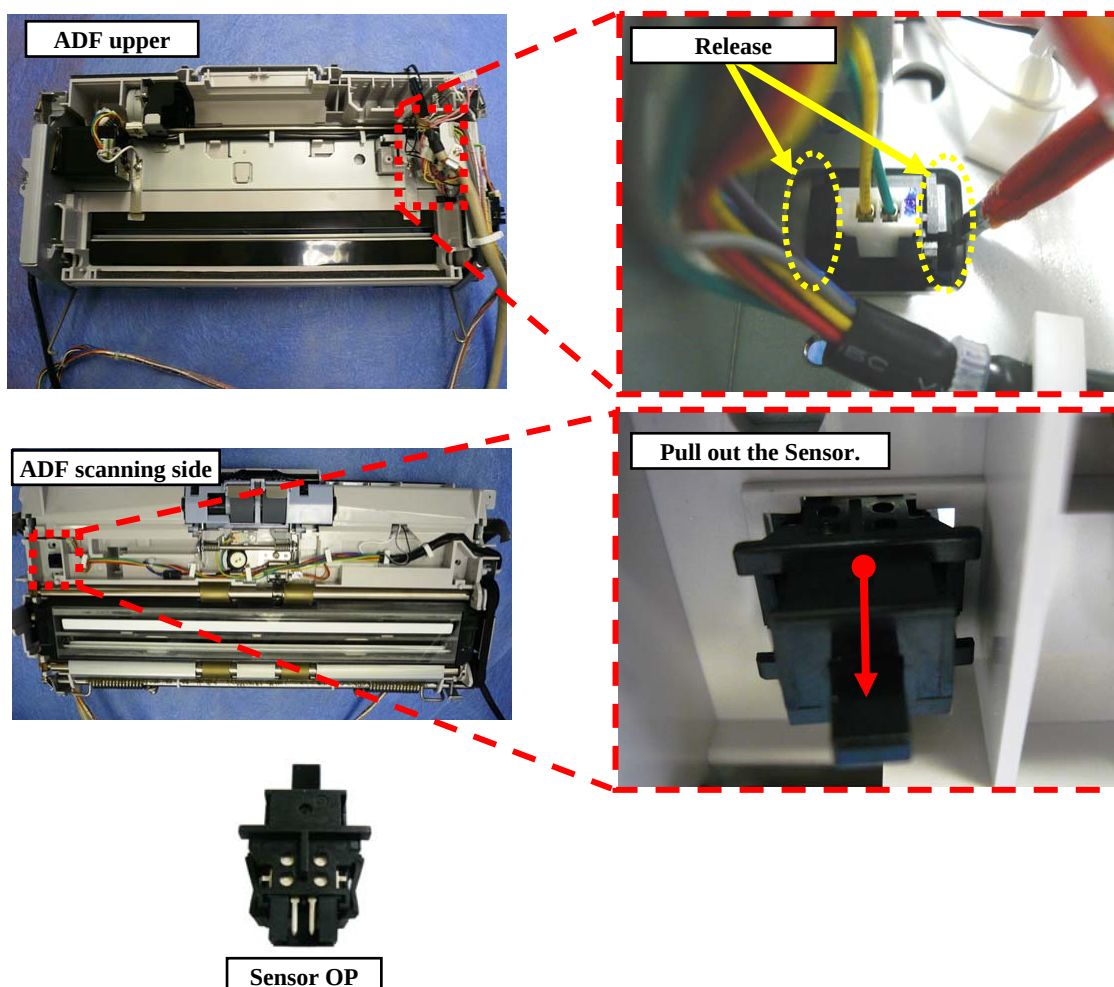
<Removal>

- (1) Remove the upper Sheet guide by referring to step (1) in Section 5.10.6.

NOTICE

Be careful not to drop the upper Sheet guide when removing/installing it. It may break the glass at the scanning position.

- (2) Remove the ADF cover by referring to step in Section 5.11.1.
- (3) Remove the Optical unit ADF by referring to Section 5.11.2.
- (4) From above the sensor, insert a small flat-blade screwdriver into both spaces on each side of the Sensor OP to release it from the frame.
- (5) Pull the Sensor OP out of the ADF scanning side, disconnect the connector and then remove the Sensor OP.



<Installation>

Follow the above procedure in reverse.

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04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
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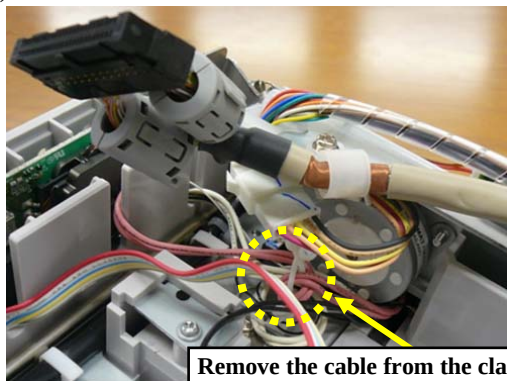
5.11.8 Background unit B

NOTICE

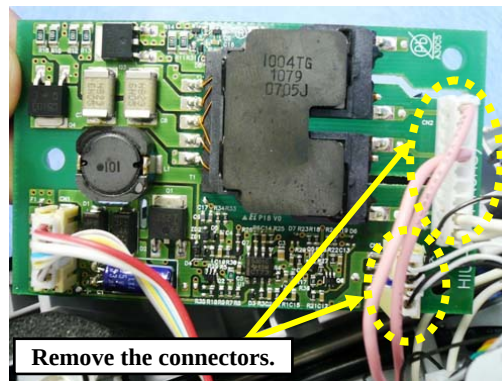
- 1) Refer to Section 3.4 for the part number of the Background Unit B.
- 2) The Background unit B includes the lamp for backside scanning and the background for front side scanning.

<Removal>

- (1) Remove the ADF cover by referring to step (1) in Section 5.11.1.
- (2) Remove the Optical unit ADF by referring to steps (2) ~ (4) in Section 5.11.2.
- (3) Remove the cables from cable clamp (photo below on the left).
- (4) Remove the two connectors from the Inverter.

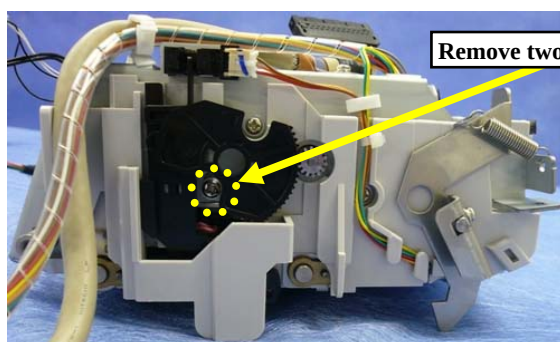


Remove the cable from the clamp.

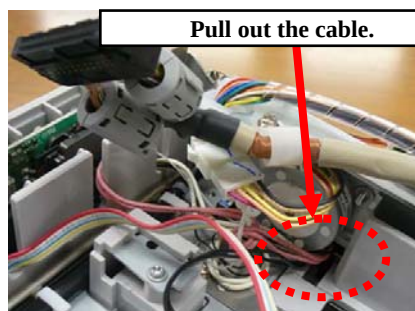
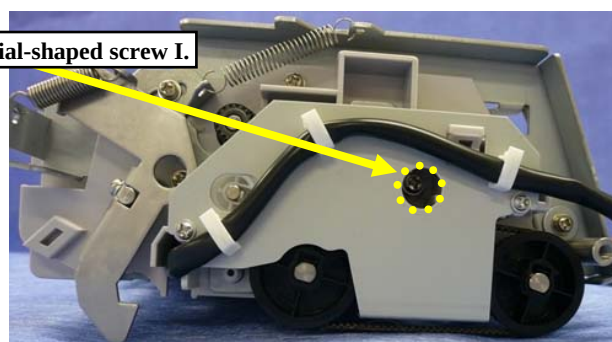


Remove the connectors.

- (5) Remove the screws I (special-shaped) from the left and right side plates of the ADF, and remove the Background unit B by pulling the cables out of the frame hole. Be careful not to drop the screws.



Remove two special-shaped screw I.



Pull out the cable.



Background Unit B

<Installation>

Follow the above procedure in reverse.

NOTICE

- 1) Be sure to route the cables of the Background unit B into the original frame hole.
- 2) If the background unit B is installed appropriately, it moves up and down slightly (approx. 1mm).
- 3) After replacing the Background unit B, perform the Offset adjustment (Section 6.1.4) and White level adjustment (Section 6.1.5).

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04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		Maintenance Manual		
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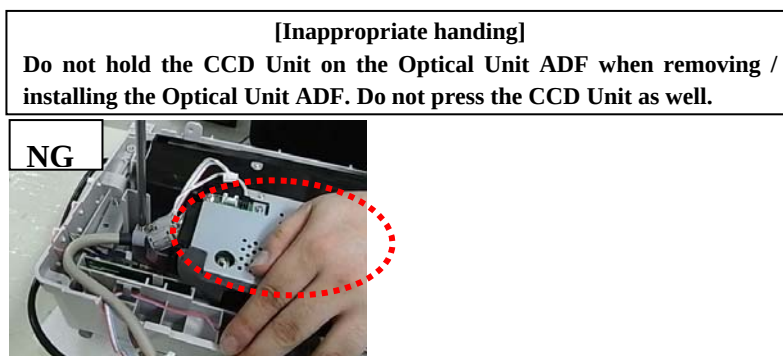
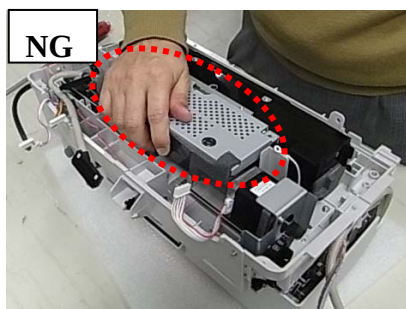
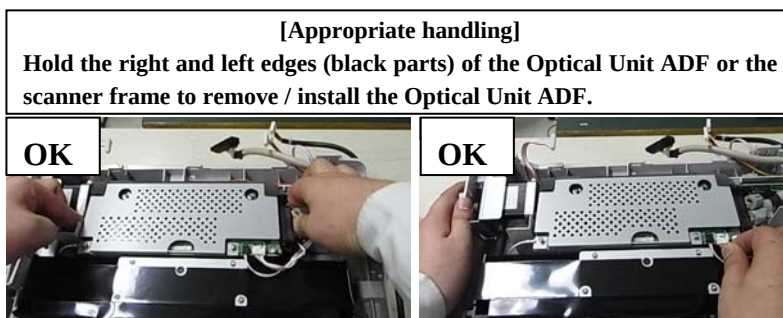
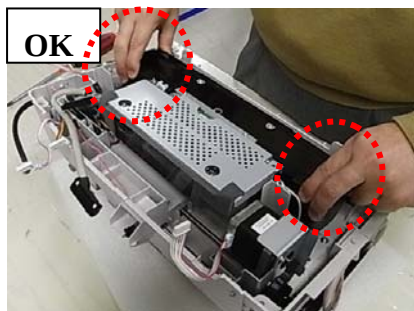
5.12 Parts in lower part of the ADF

5.12.1 Optical Unit ADF (front side optical system)

04

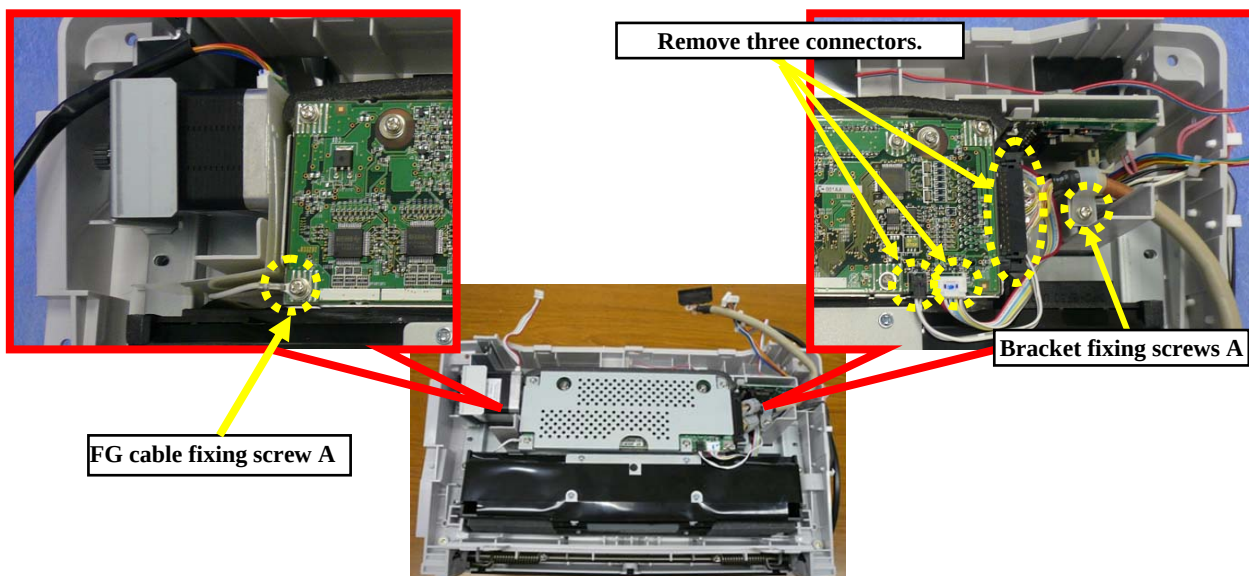
NOTICE

- 1) Refer to Section 3.19 for the part number of the Optical Unit ADF.
- 2) **When removing/installing the Optical Unit ADF, do not hold the CCD Unit or work by pressing it. Otherwise the Optical Unit ADF may be damaged or fail to operate properly.**



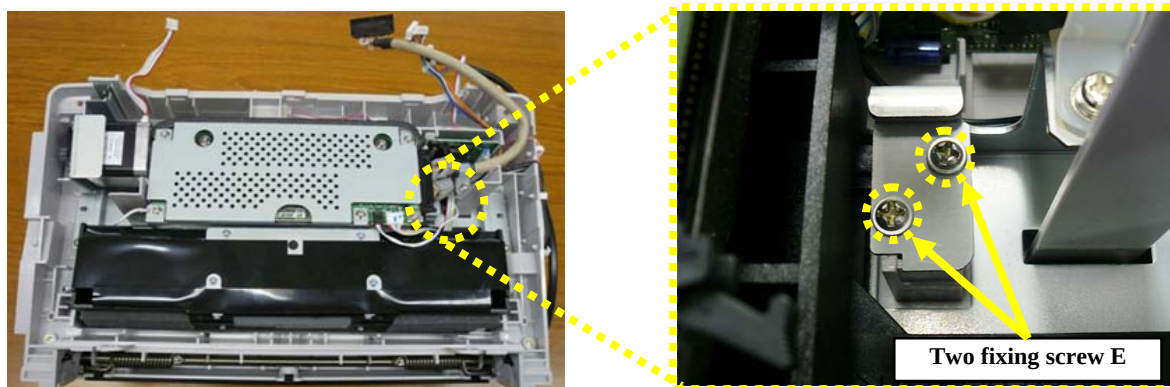
<Removal>

- (1) Remove the ADF Fix unit from the frame by referring to Sections 5.9.1 and 5.9.2.
- (2) Disconnect the three cables connected to the Optical unit ADF, and remove the screw A that secures the CCD cable, and then remove the screw A that secures the FG cable.

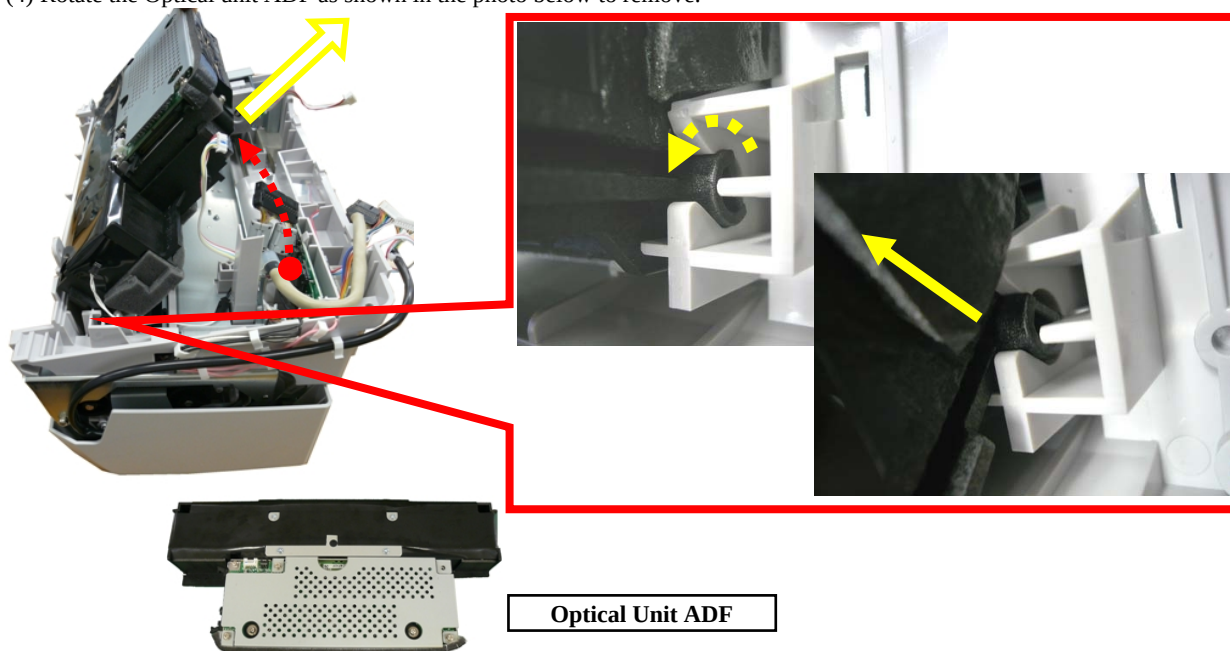


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(3) Remove the two bracket screws E and remove the bracket.



(4) Rotate the Optical unit ADF as shown in the photo below to remove.

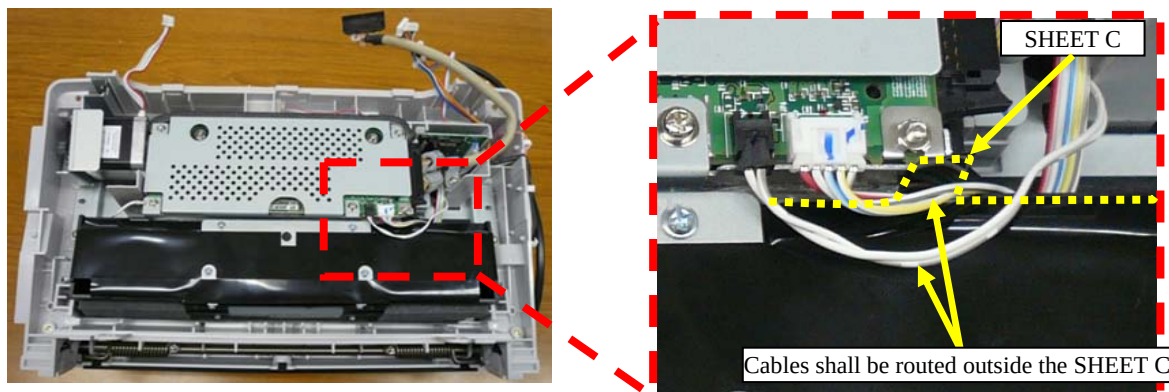


<Installation>

Follow the above procedure in reverse.

NOTICE

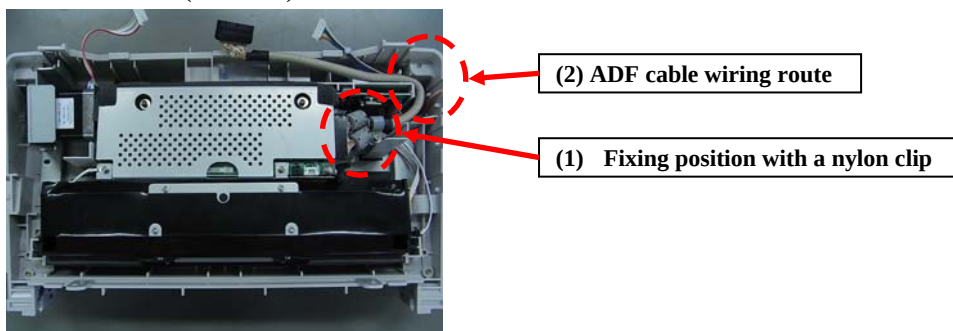
1. Be careful not to touch the mirrors on the Optical unit ADF.
2. After replacing the Optical unit ADF, perform the Offset adjustment (Section 6.1.4) and White level adjustment (Section 6.1.5).
3. Route the Inverter cable and thermistor cable outside the SHEET C so that they do not touch the metal part of the Optical unit ADF.



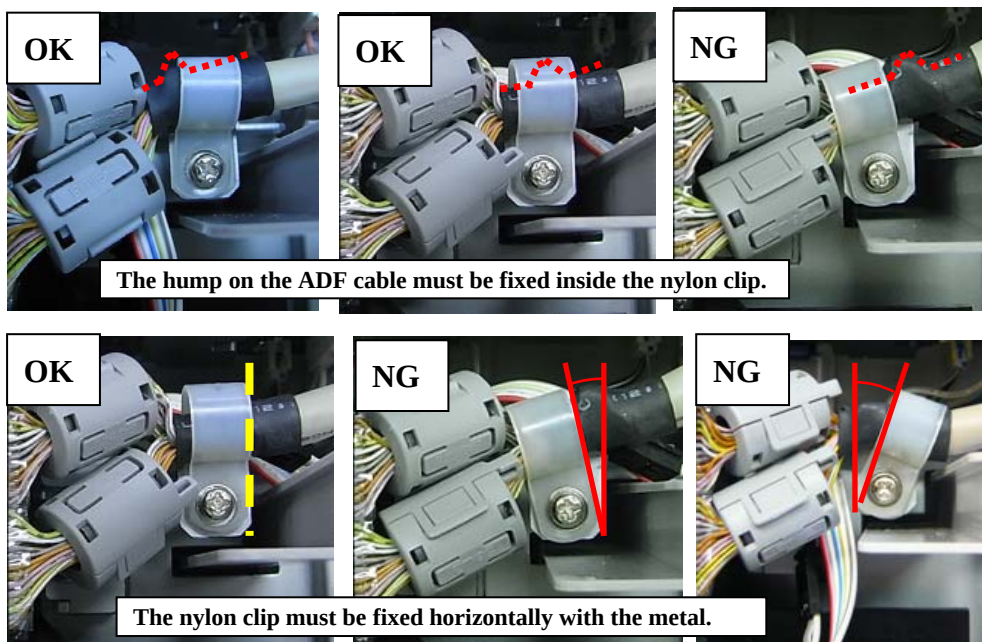
05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.					
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6			
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04

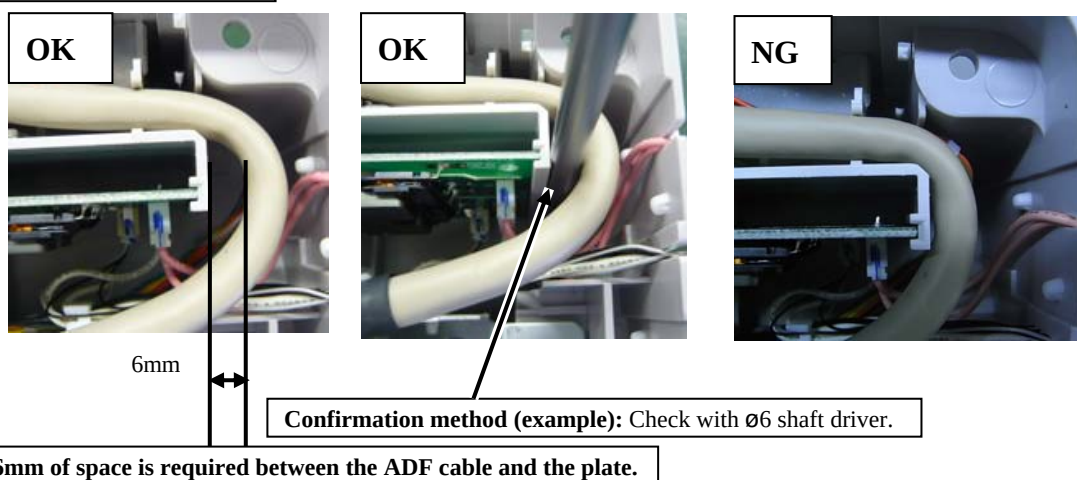
- 4) Make sure that the nylon clip fixing position and wiring is as shown in the photo below when installing the ADF Cable (connector).



(1) Fixing position with a nylon clip



(2) ADF cable wiring route



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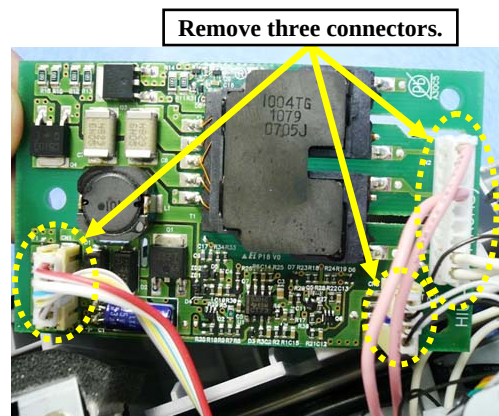
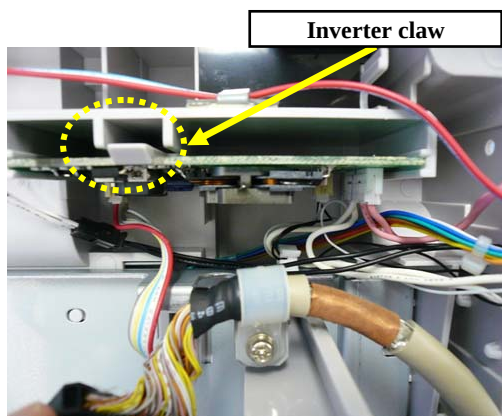
5.12.2 Inverter

NOTICE

Refer to the Section 3.5 for the part number of the Inverter.

<Removal>

- (1) Remove the ADF Fix unit from the frame by referring to Sections 5.9.1 and 5.9.2.
- (2) Unlatch the Inverter claw and lift the Inverter out of the frame.
- (3) Disconnect the three connectors from the Inverter to remove the Inverter.



<Installation>

Follow the above procedure in reverse.

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03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
						Drawing No.	P1PA03576—B50X/6		
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5.12.3 Pick Motor

NOTICE

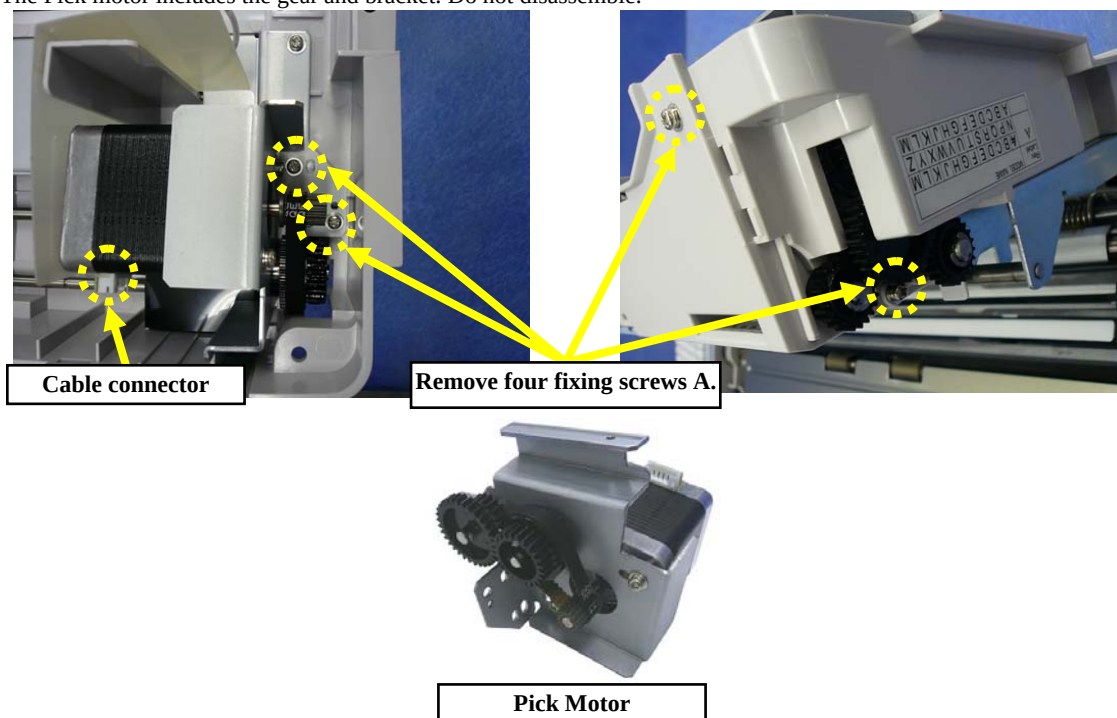
Refer to the Section 3.12 for the part number of the Pick Motor.

<Removal>

- (1) Remove the ADF Fix unit from the frame by referring to Sections 5.9.1 and 5.9.2.
- (2) Remove the Optical unit ADF by referring to Section 5.12.3.
- (3) Remove the four screws A that secure that Pick motor (one of these screws is short).
- (4) Disconnect the cable connector from the Pick motor, and then remove the Pick motor.

NOTICE

The Pick motor includes the gear and bracket. Do not disassemble.



<Installation>

Follow the above procedure in reverse.

NOTICE

After replacing the Pick motor unit, perform the magnification adjustment (Section 6.1.3).

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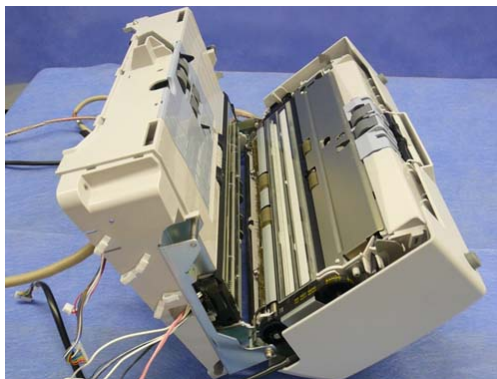
5.12.4 Background Unit F

NOTICE

- 1) Refer to the Section 3.3 for the part number of the Background Unit F.
- 2) The Background unit F includes the lamp for front side scanning and the background for backside scanning.

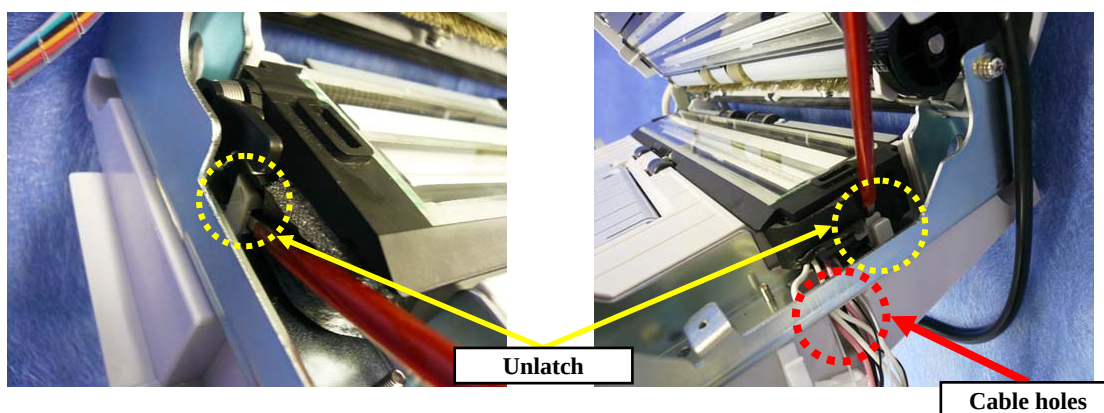
<Removal>

- (1) Remove the ADF Fix unit from the frame by referring to Sections 5.9.1 and 5.9.2.
- (2) Remove the cables from the Inverter.
- (3) Open the ADF, and place it as shown below.



- (4) With a flat-blade screwdriver, unlatch the claws at both sides of the Background unit F, and then remove the Background unit F.

Note: When removing the Background unit F, be careful not to damage the cables.



Background Unit F

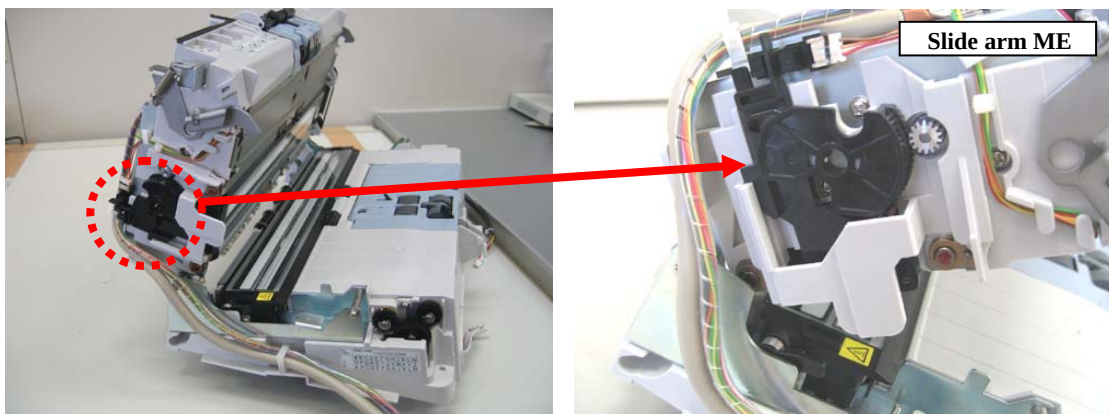
05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.					
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6			
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<Installation>

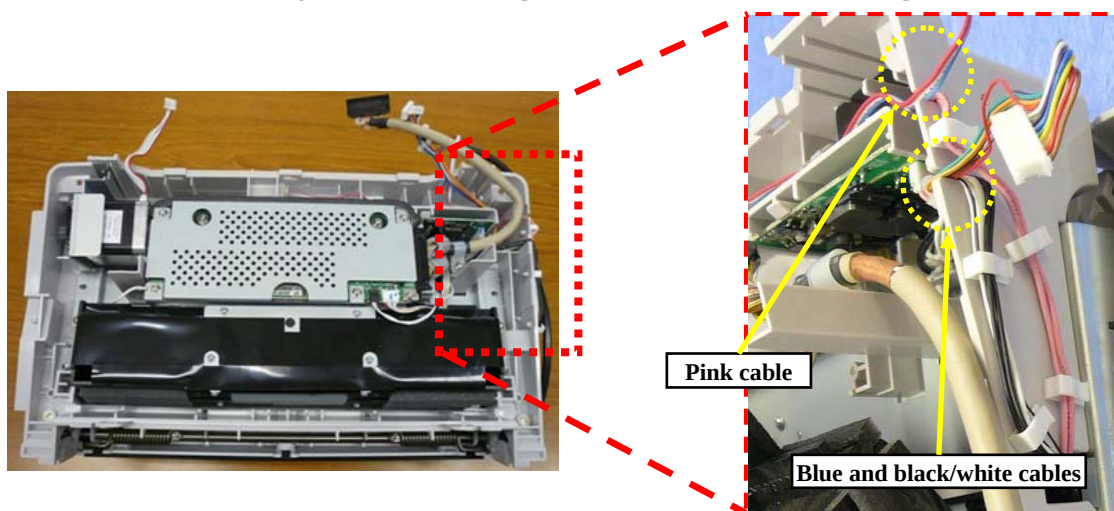
Follow the above procedure in reverse.

NOTICE

- 1) When installing the Background unit F, check that both the left and right claws secure the Background unit F properly. If not installed properly, the Background unit F and the slide arm ME interfere, can damage the ADF REV Unit.



- 2) After replacing the Back ground unit F, perform the Offset adjustment (Section 6.1.4) and White level adjustment (Section 6.1.5).
- 3) To avoid defective images, make sure that the pink, blue and black/white cables are separated.



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03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
						Drawing No.	P1PA03576—B50X/6		
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						APPR.	I.Fujioka		

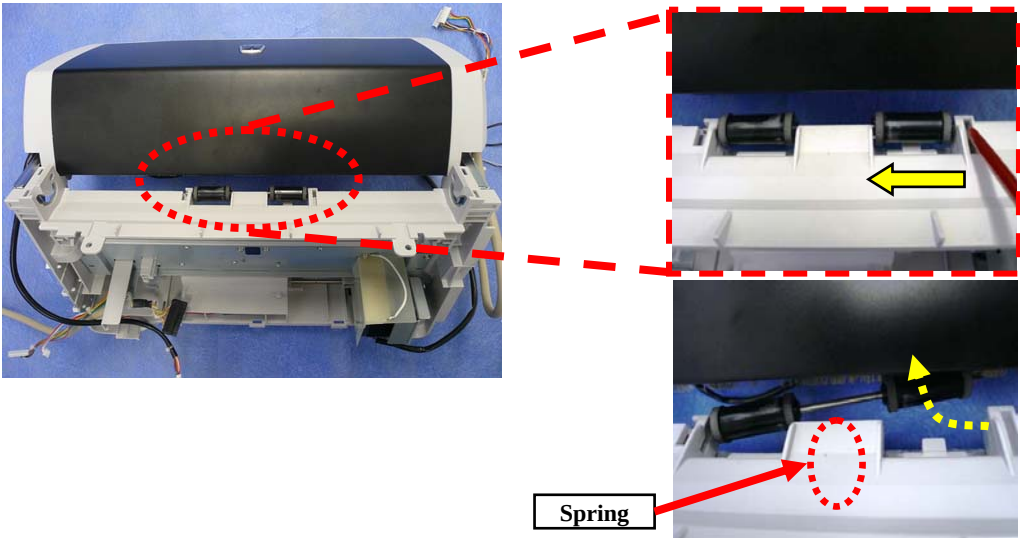
5.12.5 HK Ring ME

 NOTICE

- 1) Refer to Section 3.13 for the part number of the HK Rings ME.
- 2) Do not touch the glass areas of the scanning section while disassembling.

<Removal>

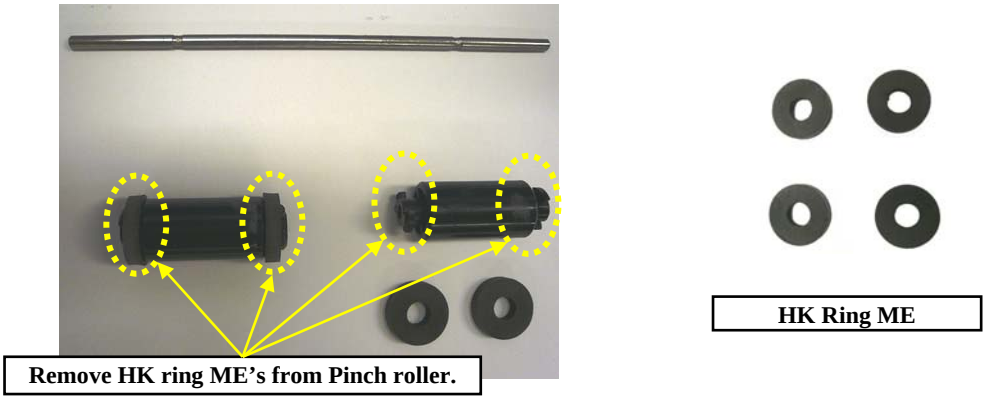
- (1) Referring to Section 5.12.4, remove the Back ground unit F.
- (2) Insert a small flat-blade screwdriver in the right groove when you look at the ADF unit from the document exit side (photo on the left below), and slide the Pinch roller shaft in the direction of the arrow until the Pinch rollers and shaft are removed.



 NOTICE

Do not lose the spring when removing the Pinch roller and the shaft.

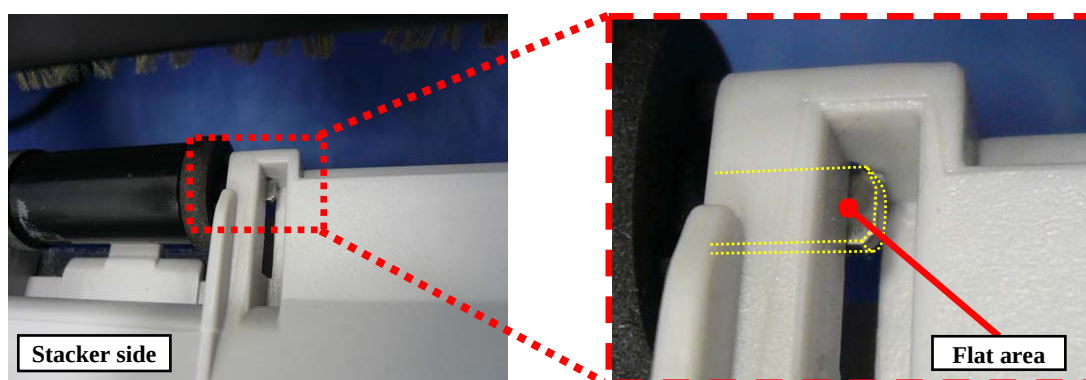
- (3) Remove the pinch rollers from the shaft, then remove the HK rings ME from the rollers.



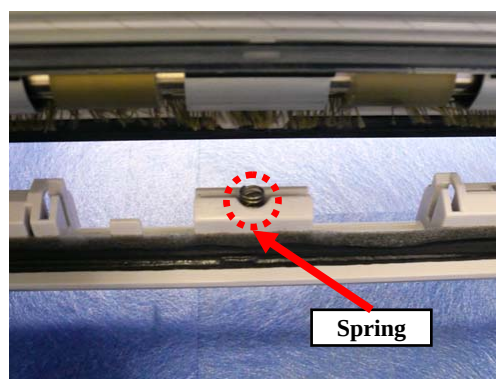
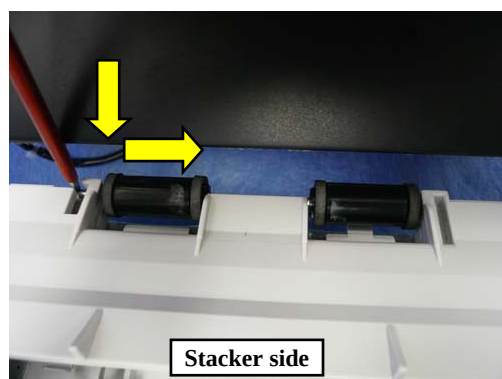
05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual		
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
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<Installation>

- (1) Insert the side of the shaft with flat area into the right side groove when looking from the document exit side.


NOTICE

1. Be sure that the flat area of the shaft comes to the Stacker side.
- (2) Insert the Pinch roller shaft in the groove, and slide the edge of the shaft in the direction of the arrow with a small flat-blade screwdriver to install.


NOTICE

2. Be sure to install the spring between the Pinch roller shaft and the frame.
3. After replacing the HK ring ME, perform the magnification adjustment (Section 6.1.3) and offset adjustment (Section 6.1.4).

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Chapter 6 Adjustment/Settings

6.1 Maintenance Mode

The scanner supports the built-in Maintenance mode that allows service providers to check the scanner performance and settings. This section gives the description of the Maintenance mode.

Note on Maintenance Mode

05

1: Before performing the sub-scanning magnification adjustment, Offset adjustment, or White level adjustment, set the user's inherent adjustment value to the default value.

The adjustment is not performed properly if the offset adjustment value and magnification adjustment value are set individually.

[Default value setting method]

Check the following items on the Software Operation Panel. If you found any individual setting values, modify them before adjustment.

Software Operation Panel → Device Setting → Offset

- Offset setting: "0" for ADF (front) Main/Sub-scanning and ADF (back) Main/Sub-scanning

- Vertical magnification adjustment: "0.0" % for ADF

Software Operation Panel → Device Setting 2 → Page edge filler

- "0" for Top/Bottom/Right/Left

*** After changing the setting values above, write into EEPROM to reflect the setting.**

6.1.1 Activating the Maintenance Mode and Mode Types

(1) How to activate the Maintenance mode

Open the ADF cover and press **Power** button while holding down the **Scan/Stop** button to turn ON the power. Keep holding the **Scan/Stop** button down until Screen T04 is displayed. This will put the scanner into the Maintenance mode. While in Maintenance mode, the scanner interface is off-line.

The following display appears during activation of Maintenance mode.

Screen T01

Function Display	No.	Power LED	Scanner status
		ON	Initial processing in Maintenance mode

When the Maintenance mode is activated normally after the initial processing, the following display appears.

Screen T04

Function Display	No.	Power LED	Scanner status
		ON	Maintenance mode #1 selected

(2) Test/adjustment items of the Maintenance mode

The following lists test/adjustment items #1 ~ #8 that are supported by the scanner.

Mode #1: Paper feeding test and Sensor test

Mode #2: Sub-scanning magnification adjustment

Mode #3: Offset adjustment

Mode #4: White level adjustment

Mode #5: Consumables counter display and reset

Mode #6: Miscellaneous information display

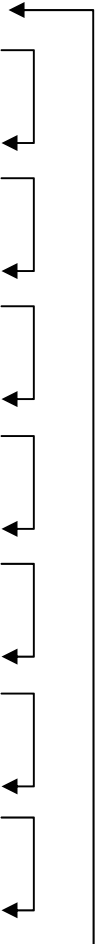
Mode #7: EEPROM data restore

Mode #8: Ultrasonic sensor adjustment

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(3) How to change the Maintenance mode

To change the Maintenance modes (#1 ~ #7), press the **Function** button on the operator panel. The display changes as follows. Mode #1 is the default.

Maintenance mode No.	Display			Maintenance mode	Related section
	Function No. Display	Power LED	Status transition		
#1		ON		Paper feeding test and Sensor test	6.1.2
#2		ON		Sub-scanning magnification adjustment	6.1.3
#3		ON		Offset adjustment	6.1.4
#4		ON		White level adjustment	6.1.5
#5		ON		Consumables counter display and reset	6.1.6
#6		ON		Miscellaneous information display	6.1.7
#7		ON		EEPROM data restore	6.1.8
#8		ON		Ultrasonic sensor adjustment * Pressing the Function button returns to #1.	6.1.9

(4) How to start the Maintenance mode

Select a Maintenance mode and press the **Scan/Stop** button. The scanner activates the selected Maintenance mode.

(5) How to exit the Maintenance mode

Keep pressing the **Power** button to turn OFF the scanner.

If you exited the Maintenance mode before saving the adjustment result, the result will not be reflected.

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6.1.2 Maintenance Mode #1: Paper feeding, Background switchover and Sensor test

This mode tests the ADF continuous scanning operation at the specified speed and also checks the sensor status (ON/OFF) for each of the ADF sensors.

[How to start]

- (1) From screen T04, press the **Scan/Stop** button. The selection screen for scanning speed/sensor test appears. A number is shown on the Function No. Display indicating the selected scanning speed or test mode as follows.

Function No. Display	Scanning speed/test mode	Remarks
0	200 dpi	Default *1
1	240 dpi	*1
2	300 dpi	*1
3	400 dpi	*1
4	600 dpi	*1
5	(Reserved)	
6	Background switchover test	
7	Sensor test	
8	Imprinter sensor test	With the Imprinter installed

*1: The scanner performs the self-diagnosis of Section 4.1 during testing. If there is no error displayed, the test is completed successfully.

- (2) The scanning speed/test mode is changed by pressing the **Function** button. To test the continuous feeding operation, select the desired scanning speed (this varies depending on the scanning resolution) from 0 ~ 4. When pressing the **Scan/Stop** button with paper on the ADF paper chute (Empty sensor ON), the ADF scanning starts.
- (3) If the **Scan/Stop** button is pressed when the Imprinter is installed, the setting whether imprinting is performed or not is displayed as below. Pressing the **Function** button can switch this setting.
Go to step (4) if the Imprinter (option) is not installed.

Screen T11

Function No. Display	Scanner status
	Not printing (default) Displays “-” without blinking.

Screen T12

Function No. Display	Scanner status
	Printing. Displays “P” without blinking

Function button: Switches these settings.

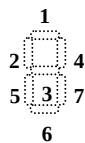
Send to button: Terminates this mode and returns to screen T04.

- (4) If the **Scan/Stop** button is pressed while the paper is set on the ADF paper chute (Empty sensor: ON), feeding begins. If “printing” is selected in step (3), the patterns in Section 9.2.4 is printed out.

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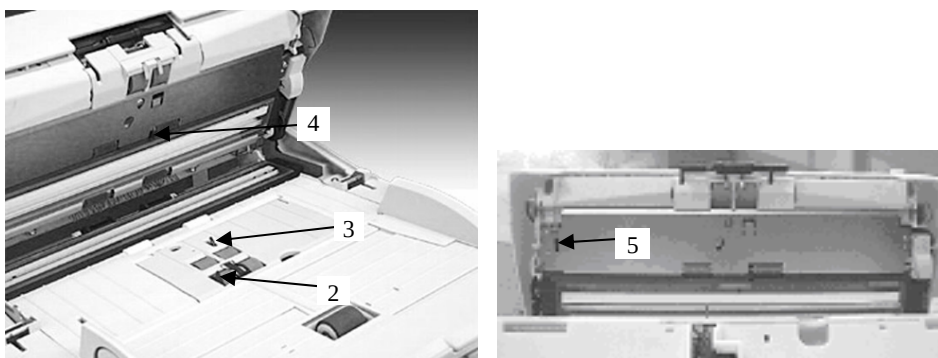
- (5) By pressing the **Scan/Stop** button while “7” is shown on the display, the scanner enters the Sensor test mode. The following table shows how the sensor status is displayed while the sensor test is in progress.

Screen T13

Function No. Display	Description	Display
	2: indicates Empty sensor status	Illuminates when the sensor is ON. (Paper is detected)
	3: indicates Pick sensor status	Illuminates when the sensor is ON. (Paper is detected)
	4: indicates TOP sensor status	Illuminates when the sensor is ON. (Paper is detected)
	5: indicates ADF Cover open sensor status	Illuminates when the sensor is OFF. (Cover is open) *Note 1

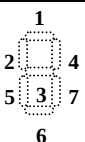
Note 1) Perform this test by opening / closing the ADF cover. If the cover open sensor is pressed by fingers, the transmitter and the receiver of the multi feed sensors are not aligned and the scanner recognizes that there is paper on the ADF and “7” lights.

Note 2) Refer to the photo below for sensor positions.

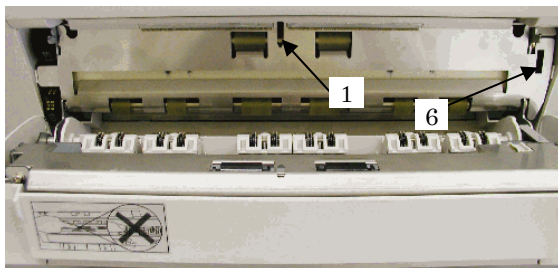


- (6) By pressing the **Scan/Stop** button while “8” is shown on the display when the Imprinter is installed, the scanner enters the Imprinter sensor test mode. The following table shows how the sensor status is displayed while the sensor test is in progress.

Screen T14

Function No. Display	Description	Display
	1: indicates Sensor OPB5 status in Imprinter	Illuminates when the sensor is ON. (Paper is detected)
	6: indicates Imprinter cover sensor status	Illuminates when the sensor is OFF. (Cover is open)
	Reserved	

Note 1) Refer to the photo below for sensor positions.



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Pressing the **Function** button rotates the Feed motors and the Pick motor.

During the sensor test, you can check the sensor status (ON/OFF) when the document passes through the ADF by the following procedures:

1. Keep pressing the **Function** button. The ADF motor starts to rotate.
2. Set the document on the ADF paper chute.

[How to end]

Press the **Send to** button. The test stops and the Maintenance mode selection screen (T04) appears. The test also terminates when no paper remains on the ADF paper chute after the paper feeding test. To exit the Maintenance mode completely, keep pressing the **Power** button to turn the scanner OFF.

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6.1.3 Maintenance Mode #2: Sub-scanning magnification adjustment

In this mode, the magnification correction values for sub-scanning (vertical) are automatically calculated to satisfy the following adjustment value.

Adjustment value: Within $\pm 1.0\%$ (Without stop and start during scanning)

If stopped and started during scanning, the adjustment value is within ± 2.0 .

NOTICE

Before this adjustment, obtain the Test sheet described in the Figure 6.1.3. This is an A3 size sheet of paper.

Notes on Sub-scanning magnification adjustment

05

1: Before performing the sub-scanning magnification adjustment, set the user's inherent adjustment value to the default value.

The adjustment is not performed properly if the offset adjustment value and magnification adjustment value are set individually.

[Default value setting method]

Check the following items on the Software Operation Panel. If you found any individual setting values, modify them before adjustment.

Software Operation Panel → Device Setting → Offset

- Offset setting: "0" for ADF (front) Main/Sub-scanning and ADF (back) Main/Sub-scanning

- Vertical magnification adjustment: "0.0" % for ADF

Software Operation Panel → Device Setting 2 → Page edge filler

- "0" for Top/Bottom/Right/Left

*** After changing the setting values above, write into EEPROM to reflect the setting.**

[How to start]

- (1) From screen T04, Press the **Function** button once to select  (Maintenance mode #2) and press the **Scan/Stop** button. A number is shown on the Function No. Display indicating the magnification to be adjusted as follows.

Function No. Display	Offset to be adjusted	Remarks
0	ADF sub-scanning magnification adjustment	Default Prepare the test sheet described in Figure 6.1.3.

- (2) Set a white A3 size sheet (Figure 6.1.3) on the ADF paper chute in Portrait orientation, and adjust the sheet guide to the width of the sheet.

Press the **Scan/Stop** button to begin the adjustment operation.

[How to abort]

Press the **Send** button during the adjustment operation. The operation stops and the Maintenance mode selection screen (T04) appears.

If  is displayed, the sub-scanning magnification is adjustment has been successful. Go to step.3.

If  is displayed, the sub-scanning magnification adjustment has failed. Go to step 4.

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(3) When the sub-scanning magnification adjustment is completed successfully

If the sub-scanning magnification adjustment is completed successfully, Screen T21 appears. To save the adjustment result, press the **Function** button. If not, press the **Send to** button.

Screen T21

Function Display	No.	Scanner status	Available buttons
		Displays “o” without blinking. The adjustment has been successful.	Function button: Displays screen T22. Writing magnification correction value in EEPROM is available. Send to button: Terminates this mode and returns to screen T04.

After the **Function** button is pressed, Screen T22 is displayed. To write the adjustment result, press the **Scan/Stop** and the **Function** buttons simultaneously, then let go. The writing operation begins. Screen T23 is displayed during the operation, and T24 is displayed when writing is completed.

Screen T22

Function Display	No.	Scanner status	Available buttons
		“o” (lower half) blinks. Confirming whether the correction value is written to EEPROM.	Scan/Stop + Function button, then let go: Begin writing the offset correction value into EEPROM. During writing operation, screen T23 is displayed. Screen T24 is displayed when writing is completed. Send to button: Terminates this mode and returns to screen T04.

Screen T23

Function Display	No.	Scanner status	Available buttons
		“L” lights without blinking. Correction value is being written to EEPROM.	All buttons are disabled.

Screen T24

Function Display	No.	Scanner status	Available buttons
		“o” (upper half) lights without blinking. The value has been written successfully.	Send to button: Terminates this mode and returns to screen T04.

Press the **Send to** button to terminate this mode and return to screen T04.

To exit the Maintenance mode completely, keep pressing the **Power** button to turn the scanner OFF.

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(4) When the sub-scanning magnification adjustment fails

When the sub-scanning magnification adjustment fails, Screen T25 appears. Press the **Function** button to see what error has occurred. After checking the error, press the **Send to** button to return to Screen T04.

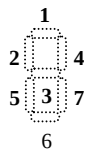
Screen T25

Function No. Display	Scanner status	Available buttons
	Displays “c” without blinking. The adjustment has failed.	Function button: Displays error information (screen T26) Send to button: Terminates this mode and returns to screen T04.

 NOTICE

The major reason for adjustment failure is incorrect setting of the test sheet.
Set the test sheet correctly and try the magnification adjustment again.

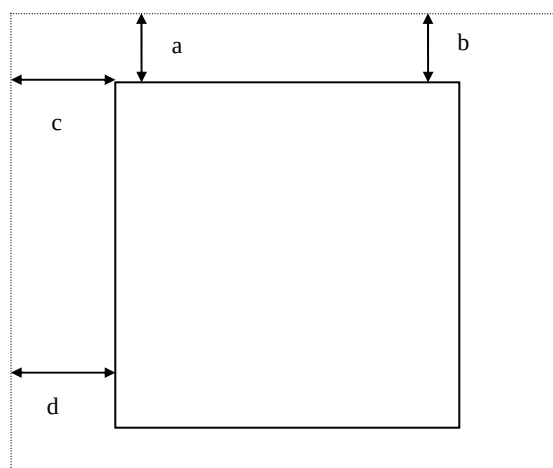
Screen T26

Function No. Display	Description	Countermeasure when abnormal termination frequently occurs
	1: Cannot detect the leading edge of the document (Image is shifted upward too much)	Conduct necessary operation by referring to step (2) and later in Section 4.3.7.
	2: Cannot detect the left edge of the document (Image is shifted to left too much.)	
	3: Cannot detect the leading edge of the document (Image is shifted downward too much.)	
	5: Cannot detect the left edge of the document (Image is shifted to right too much.)	
	4: Excessive skew A	
	7: Excessive skew B	

Skew A and B are calculated by the following expression.

$$\text{Skew A} = a - b$$

$$\text{Skew B} = c - d$$



<Available buttons on screen T26>

Send to button: Terminates this mode and returns to screen T04.

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[Test sheet]

Use the test sheet for magnification / offset adjustment that meets the following specification (A3 copy paper is allowed).

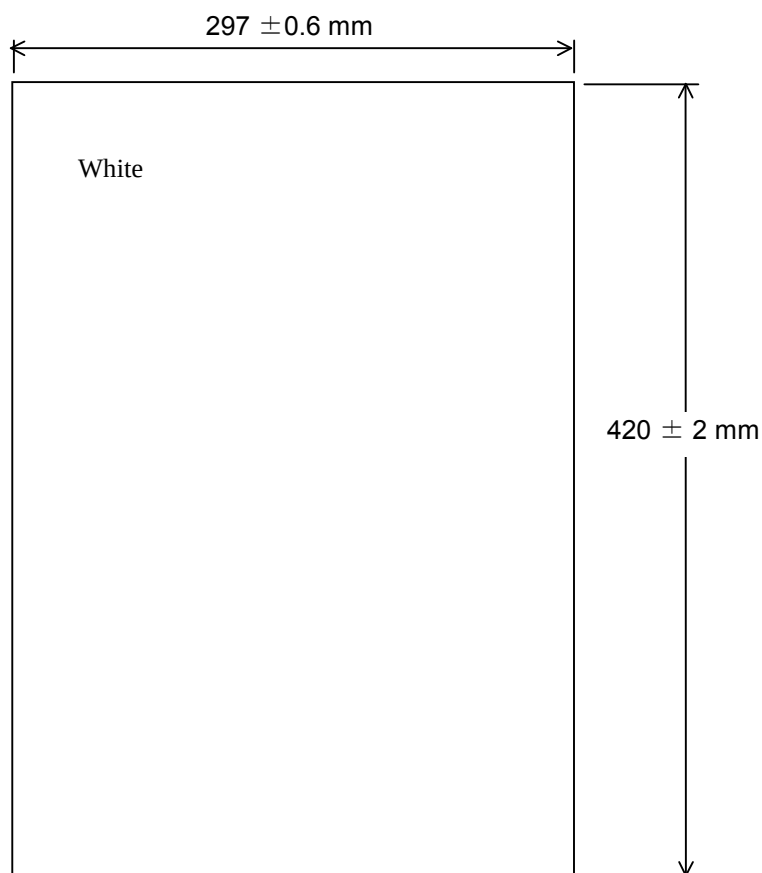


Figure 6.1.3 Magnification / Offset Adjustment Test Sheet

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6.1.4 Maintenance Mode #3: Offset adjustment

In this mode, the offset correction values for main/sub-scanning are automatically calculated to satisfy the following offset values:

<Target offset value>

Main scanning: The largest offset of A6 or larger size of document shall be: ± 24 dot (@600dpi)

Sub-scanning: The largest offset of A6 or larger size of document shall be: ± 33 dot (@600dpi)

NOTICE

- The value above is the target value of the offset adjustment. Image specification is as follows:
 ADF) Main scanning: Smaller offset of top or bottom of left edge shall be 0 to 1.5mm.
 Sub-scanning: Smaller offset of left or right of leading edge shall be 0 to 2.0mm.
- Before this adjustment, obtain the Test sheet described in the figure 6.1.3. This is an A3 size sheet of paper.

Notes on Offset adjustment

05

**1: Before performing the Offset adjustment, set the user's inherent adjustment value to the default value.
 The adjustment is not performed properly if the offset adjustment value and magnification adjustment value are set individually.**

[Default value setting method]

Check the following items on the Software Operation Panel. If you found any individual setting values, modify them before adjustment.

Software Operation Panel → Device Setting → Offset

- **Offset setting: "0" for ADF (front) Main/Sub-scanning and ADF (back) Main/Sub-scanning**

- **Vertical magnification adjustment: "0.0" % for ADF**

Software Operation Panel → Device Setting 2 → Page edge filler

- **"0" for Top/Bottom/Right/Left**

*** After changing the setting values above, write into EEPROM to reflect the setting.**

[How to start]

- From screen T04, press the **Function** button twice to select  (Maintenance mode #3) and press the **Scan/Stop** button. A number is shown on the Function No. Display indicating the location of the offset to be adjusted.

Function No. Display	Offset to be adjusted	Remarks
0	ADF front	Default Prepare the test sheet described in figure 6.1.3.
1	ADF back	Prepare the test sheet described in figure 6.1.3.

- Change the selection by pressing the **Function** button.
- Set a white A3 size sheet (Figure 6.1.3) on the ADF paper chute in Portrait orientation, and adjust the sheet guide to the width of the sheet.

Press the **Scan/Stop** button to begin the adjustment operation.

[How to abort]

Press the **Send to** button during the adjustment operation. The operation stops and the Maintenance mode selection screen (T04) appears.

If  is displayed, the offset adjustment has been successful. Go to step 4.

If  is displayed, the offset adjustment has failed. Go to step 5.

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(4) When the offset adjustment is completed successfully

If the offset adjustment is completed successfully, Screen T31 appears. To save the adjustment result, press the **Function** button. If not, press the **Send to** button.

Screen T31

Function Display	No.	Scanner status	Available buttons
		Displays “o” without blinking. The adjustment has been successful.	Function button: Displays screen T32 and writing offset correction value in EEPROM is available. Send to button: Terminates this mode and returns to screen T04.

After the **Function** button is pressed, Screen T32 is displayed. To write the adjustment result, press the **Scan/Stop** and the **Function** buttons simultaneously, then let go. The writing operation begins. Screen T33 is displayed during the operation, and T34 is displayed when writing is completed.

Screen T32

Function Display	No.	Scanner status	Available buttons
		“o” (lower half) blinks. Confirming whether the correction value is written to EEPROM.	Scan/Stop + Function button, then let go: Begin writing the offset correction value into EEPROM. During writing operation, screen T33 displayed. Screen T34 is displayed when writing is complete. Send to button: Terminates this mode and returns to screen T04.

Screen T33

Function Display	No.	Scanner status	Available buttons
		“L” lights without blinking. Correction value is being written to EEPROM.	All buttons are disabled.

Screen T34

Function Display	No.	Scanner status	Available buttons
		“o” (upper half) lights without blinking. The value has been written successfully.	Send to button: Terminates this mode and returns to screen T04.

Press the **Send to** button to terminate this mode and return to screen T04.

To exit the Maintenance mode completely, keep pressing the **Power** button to turn the scanner OFF.

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(5) When the offset adjustment fails

When the offset adjustment fails, Screen T35 appears. Press the **Function** button to see what error has occurred. After checking the error, press the **Send to** button to return to Screen T04.

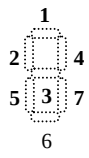
Screen T35

Function No. Display	Scanner status	Available buttons
	Displays “c” without blinking. The adjustment has failed.	Function button: Displays error information (screen T36) Send to button: Terminates this mode and returns to screen T04.

 NOTICE

The major reason for adjustment failure is incorrect setting of the test sheet.
Set the test sheet correctly and try the offset adjustment again.

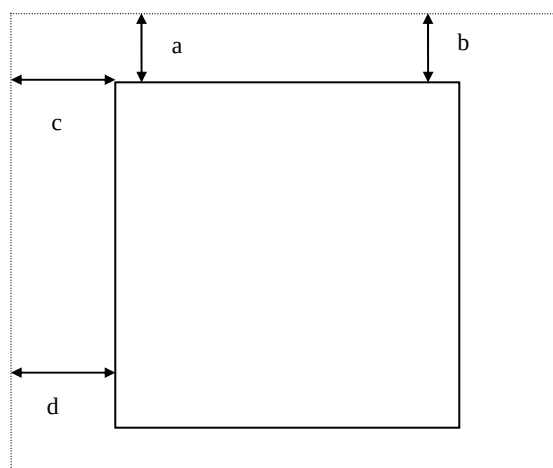
Screen T36

Function No. Display	Description	Countermeasure when abnormal termination frequently occurs
	1: Cannot detect the leading edge of the document (Image is shifted upward too much.)	Conduct necessary operation by referring to step (3) and later in Section 4.3.6.
	2: Cannot detect the left edge of the document (Image is shifted to left too much.)	
	3: Cannot detect the leading edge of the document (Image is shifted downward too much.)	
	5: Cannot detect the left edge of the document (Image is shifted to right too much.)	
	4: Excessive skew A	
	7: Excessive skew B	

Skew A and B are calculated by the following expression.

$$\text{Skew A} = a - b$$

$$\text{Skew B} = c - d$$



<Available buttons on screen T36>

Send to button: Terminates this mode and returns to screen T04.

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6.1.5 Maintenance Mode #4: White level adjustment

In this mode, the white level correction value for the ADF is automatically adjusted.

NOTICE

Before this adjustment, obtain the white level adjustment sheet (A4 coated paper) described in section 6.4.

Notes on White level adjustment

05

1: Before performing the White level adjustment, set the user's inherent adjustment value to the default value.
The adjustment is not performed properly if the offset adjustment value and magnification adjustment value are set individually.

[Default value setting method]

Check the following items on the Software Operation Panel. If you found any individual setting values, modify them before adjustment.

Software Operation Panel → Device Setting → Offset

- Offset setting: "0" for ADF (front) Main/Sub-scanning and ADF (back) Main/Sub-scanning

- Vertical magnification adjustment: "0.0" % for ADF

Software Operation Panel → Device Setting 2 → Page edge filler

- "0" for Top/Bottom/Right/Left

*** After changing the setting values above, write into EEPROM to reflect the setting.**

[How to start]

- (1) From screen T04, press the **Function** button three times to select  (Maintenance mode #4) and press the **Scan/Stop** button.
 A number is shown on the Function No. Display indicating the location of the white level to be adjusted.

Function No. Display	White level to be adjusted	Remarks
0	ADF front	Default Use the white level adjustment sheet described in Section 6.4.
1	ADF back	Use the white level adjustment sheet described in Section 6.4.

- (2) Change the selection by pressing the **Function** button.
 (3) Set the white level adjustment test sheet (see Section 5.4) on the ADF paper chute in landscape orientation and adjust the sheet guide to the width of the test sheet.

Press the **Scan/Stop** button to begin the adjustment operation.

NOTICE

The adjustment starts approx. 10 seconds after pressing the **Scan/Stop** button.

Screen T41

Function No. Display	Scanner status	Available buttons
	Blinks during white level adjustment.	All buttons are disabled.

[How to abort]

Press the **Send** button during the adjustment operation. The operation stops and the Maintenance mode selection screen (T04) appears.

If  is displayed, the white level adjustment has been successful. Go to step 4.

If  is displayed, the white level adjustment has failed. Go to step 5.

NOTICE

After scanning the white level adjustment sheet, it takes approx. 10 seconds for the scanner to calculate the level adjustment.

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(4) When the white level adjustment is completed successfully

If the white level adjustment is completed successfully, Screen T42 appears. To save the adjustment result, press the **Function** button. If not, press the **Send to** button.

Screen T42

Function Display	No.	Scanner status	Available buttons
		Displays “o” without blinking. The adjustment has been successful.	Function button: Displays screen T42 and writing the correction value in EEPROM is available. Send to button: Terminates this mode and returns to screen T04.

After the **Function** button is pressed, Screen T43 is displayed. To write the adjustment result, press the **Scan/Stop** and the **Function** buttons simultaneously, then let go. The writing operation begins. Screen T44 is displayed during the operation. T45 is displayed when writing is complete.

Screen T43

Function Display	No.	Scanner status	Available buttons
		“o” (lower half) blinks. Confirming whether the correction value is written to EEPROM.	Scan/Stop + Function button, then let go: Begin writing the white level correction value to EEPROM. During the writing operation, screen T44 displayed. Screen T45 is displayed when writing is complete. Send to button: Terminates this mode and returns to screen T04.

Screen T44

Function Display	No.	Scanner status	Available buttons
		“L” lights without blinking. Correction value is being written to EEPROM.	All buttons are disabled.

Screen T45

Function Display	No.	Scanner status	Available buttons
		“o” (upper half) lights without blinking. The value has been written successfully.	Send to button: Terminates this mode and returns to screen T04.

Press the **Send to** button to terminate this mode and return to screen T04.

To exit the Maintenance mode completely, keep pressing the **Power** button to turn the scanner OFF.

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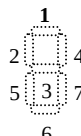
(5) When the white level adjustment fails

When the white level adjustment fails, Screen T46 appears. Press the **Function** button to see what error has occurred. After checking the error, press the **Send to** button to return to Screen T04.

Screen T46

Function Display	No.	Scanner status	Available buttons
		Displays “c” without blinking. The adjustment has failed.	Function button: Displays error information (screen T47) Send to button: Terminates this mode and returns to screen T04.

Screen T47

Function Display	No.	Description	Countermeasure when abnormal termination frequently occurs
		1: media error The test sheet may not be the specified one. Please confirm the test sheet.	The Lamps, Optical units may be defective. Replace the defective parts.

<Available buttons at screen T47>

Send to button: Terminates this mode and return to screen T04.

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6.1.6 Maintenance Mode #5: Consumables counter display and Reset

In this mode, the following consumable counters can be displayed and reset:

- Pick counter (Abrasion counter for the Pick roller)
- Brake roller counter (Abrasion counter for the Brake roller)
- Remaining ink (with the Imprinter installed)
- Print cartridge counter (with the Imprinter installed)

[How to operate]

- (1) From screen T04, press the **Function** button four times to select  (Maintenance mode #5) and press the **Scan/Stop** button. A number is shown on the Function No. Display indicating the counters as follows.

Function No. Display	Display	Remarks
0	Pick counter (Abrasion counter for Pick roller)	Default
1	Brake roller counter (Abrasion counter for Brake roller)	
2	Remaining ink	Only when the Imprinter is installed.
3	Print cartridge counter	

- (2) Change the selection by pressing the **Function** button.

- (3) The counter is displayed as follows when pressing the **Scan/Stop** button.

Counter	Display
Pick counter	The counter displays 8 digits in total, 1 number at a time (1 blink), from left digit to right digit. (If the counter has not reached 8 digits yet, 0 is added to blank digits.) The symbol “-.” is displayed before the first number, indicating the counter display begins. The counter displays “0” until it reaches 500, and increases in increments of 10 after 500. eg. When the counter is “16,245”, “-00016240” is displayed in the following order: “-.” → “0” → “0” → “0” → “0” → “1” → “6” → “2” → “4” → “0”
Brake roller counter	See “Pick counter” for how to display.
Remaining ink	The counter displays 3 digits in total between 100 to 0 (percentage), following the symbol “-.”. 100 (%) is the initial value. As consumed amount of ink differs depending on environmental condition, this is approximate number. eg. When ink remains 58%: “-.” → “0” → “5” → “8”
Print cartridge counter	The counter displays 8 digits in total. See “Pick counter” for how to display.

[How to reset]

The following buttons are available during the counter display.

Function button: Displays screen T51 to reset the counter.

Send to button: Terminates this mode and returns to screen T04.

Screen T51

Function No. Display	Scanner status	Available buttons
	“o” (lower half) blinks. Counter is ready to be reset.	Scan/Stop + Function button, then let go: Begin resetting the displayed counter value to 0. During the reset operation, screen T52 displayed. Screen T53 is displayed when the counter is reset. Send to button: Terminates this mode and returns to screen T04.

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Screen T52

Function Display	No.	Scanner status	Available buttons
		“L” lights without blinking. The counter is being reset.	All buttons are disabled.

Screen T53

Function Display	No.	Scanner status	Available buttons
		“o” (upper half) lights without blinking. Counter reset is complete.	Send to button: Terminates this mode and returns to screen T04.

Press the

Send to

 button to terminate this mode and return to screen T04.

To exit the Maintenance mode completely, keep pressing the

Power

 button to turn the scanner OFF.

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6.1.7 Maintenance Mode #6: Miscellaneous information display

In this mode, the following information is displayed:

- Firmware version number
- Starting date of the scanner *
- The accumulated number that have been scanned by the ADF

*: This indicates the date when the scanner is activated by the driver for the first time. This information is only available if the driver supports this function.

[How to start]

(1) From screen T04, press the **Function** button five times to select  (Maintenance mode #6) and press the **Scan/Stop** button.

A number is shown on the Function No. Display indicating the information as follows.

Function Display	No.	Display	Remarks
0		Firmware version	Default
1		Starting date of the scanner	
2		Accumulated number of paper scanned by ADF	

(2) Change the selection by pressing the **Function** button.

(3) The information is displayed as follows when pressing the **Scan/Stop** button.

Information	Display														
Firmware version number	The version numbers (4 digits for each) are displayed following the symbol “-“. eg.1. When the SDC version is “A00” and the MDC version is “B00” (*1), <SDC> <MDC> “-” → “0” → “1” → “0” → “0” → “-” → “0” → “2” → “0” → “0” The letter “A” through “L” are expressed by two digits with following rule. <table><tr><td>A</td><td>B</td><td>C</td><td>.....</td><td>J</td><td>K</td><td>L</td></tr><tr><td>01</td><td>02</td><td>03</td><td>.....</td><td>10</td><td>11</td><td>12</td></tr></table> SDC: Firm for controlling interface MDC: Firm for controlling mechanism eg.2. When the SDC version is “B00”, the MDC is “C00”, and the Imprinter version is “A00” <SDC> <MDC> “-” → “0” → “2” → “0” → “0” → “-” → “0” → “3” → “0” → “0” → <Imprinter> “P” → “0” → “1” → “0” → “0” The display changes every 0.5 second.	A	B	C		J	K	L	01	02	03		10	11	12
A	B	C		J	K	L									
01	02	03		10	11	12									
Starting date of the scanner	Starting date of the scanner is displayed in 6 digits, 2 digits for “Year (Christian calendar)”, 2 digits for “Month”, and 2 digits for “Date”, following the symbol “-“. You cannot reset the date. eg. When the starting date is January 31st, 2002, “020131” is displayed in the following order: “-” → “0” → “2” → “0” → “1” → “3” → “1”														
The accumulated number of paper scanned by the ADF	The accumulated number of scanned by the ADF is displayed in 8 digits from left to right, following the symbol “-“. (If the counter does not reach 8 digits, 0 is added to blank digits.) The counter displays “0” until it reaches 10, and increases in increment of 10. You cannot reset this counter. eg. When the accumulated number is “16,245”, “00016240” is displayed in the following order: “-” → “0” → “0” → “0” → “1” → “6” → “2” → “4” → “0”														

*1: The firmware version is normally expressed by an alphabet, such as A, B or C. However, if the firmware is a beta version, two digits are added after the alphabet character, such as A01, A02 or A03. So the firmware version like A00, B00 or C00 means this is an official version.

*2: As the Function No. display cannot display alphabets, an alphabet is expressed by two digits as follows:

A	B	C	-----	J	K	L
01	02	03	-----	10	11	12

[How to abort]

Press the **Send to** button to terminate this mode and return to screen T04.

To exit the Maintenance mode completely, keep pressing the **Power** button to turn the scanner OFF.

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6.1.8 Maintenance Mode #7: EEPROM data restore

When replacing the Panel PCA A, the EEPROM data on the Panel PCA A must be moved to the flash memory of the Control PCA. In this mode, the data is restored from the Control PCA to the Panel PCA A.

[How to start]

- (1) From screen T04, press the **Function** button six times to select  (Maintenance mode #7) and press the **Scan/Stop** button. The following display appears.

To restore the EEPROM data, press the **Scan/Stop** and **Function** buttons simultaneously, then let go. The restore operation begins. Screen T72 is displayed during the operation. T73 is displayed when restoration is complete.

Screen T71

Function No. Display	Scanner status	Available buttons
	“o” (lower half) blinks. Confirming whether the data is restored or not.	Scan/Stop + Function button, then let go: Returns the data from the Control PCA to the EEPROM. During the restore operation, screen T72 is displayed. Send to button: Terminates this mode and returns to screen T04.

Screen T72

Function No. Display	Scanner status	Available buttons
	“L” lights without blinking. The data is being restored.	All buttons are disabled.

When the data restoration is successful, the following display appears. Press the **Send to** button: to return to screen T04.

Screen T73 Normal termination

Function No. Display	Scanner status	Available buttons
	Displays “o” (upper half) without blinking. The data has been restored successfully.	Send to button: Terminates this mode and returns to screen T04.

When no data exists on the Control PCA, the following display appears. Press the **Send to** button to return to screen T04.

Screen T74 No data

Function No. Display	Scanner status	Available buttons
	Displays “c” without blinking.	Send to button: Terminates this mode and returns to screen T04.

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6.1.9 Maintenance Mode #8: Ultrasonic sensor adjustment

In this mode, the optimum Ultrasonic sensor (US sensor) output is automatically adjusted in order to improve the multi feed detection accuracy.

NOTICE

Before this adjustment, obtain the adjustment sheet (A4 size thick paper) described in Section 5.4.

[How to start]

- (1) From screen T04, press the **Function** button seven times to select  (Maintenance mode #8). Place the adjustment sheet on the ADF paper chute and press the **Scan/Stop** button. The adjustment will begin. Screen T81 is displayed during the Ultrasonic sensor adjustment.

Screen T81

Function No. Display	Scanner status	Available buttons
	Blinking “5” is displayed during adjustment.	All buttons are disabled.

[How to abort]

Press the **Send to** button during the adjustment operation. The operation stops and the Maintenance mode selection screen (T04) appears.

If  is displayed, the adjustment was successful. Go to item No.4.

If  is displayed, the adjustment failed. Go to item No.5.

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(4) When the ultrasonic sensor adjustment is successful

If the ultrasonic sensor adjustment is successful, Screen T82 appears. To save the adjustment result, press the **Function** button. If not, press the **Send to** button.

Screen T82

Function Display	No.	Scanner status	Available buttons
		Displays “o” without blinking. The adjustment has been successful.	Function button: Displays screen T83 and writing the correction value in EEPROM is available. Send to button: Terminates this mode and returns to screen T04.

After the **Function** button is pressed, Screen T83 is displayed. To write the adjustment result, press the **Scan/Stop** and the **Function** buttons simultaneously, then let go. The writing operation begins. Screen T84 is displayed during operation, and T85 is displayed when writing has completed.

Screen T83

Function Display	No.	Scanner status	Available buttons
		“o” (lower half) blinks. Confirming whether the correction value is written to EEPROM or not.	Scan/Stop + Function button, then let go: Begin writing the white level correction value into EEPROM. During the writing operation, screen T84 displayed. Screen T85 is displayed when writing is complete. Send to button: Terminates this mode and returns to screen T04.

Screen T84

Function Display	No.	Scanner status	Available buttons
		“L” lights without blinking. Correction value is being written to EEPROM.	All buttons are disabled.

Screen T85

Function Display	No.	Scanner status	Available buttons
		“o” (upper half) lights without blinking. The value has been written successfully.	Send to button: Terminates this mode and returns to screen T04.

Press the **Send to** button to terminate this mode and return to screen T04.

To exit the Maintenance mode completely, keep pressing the **Power** button to turn the scanner OFF.

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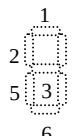
(5) When the ultrasonic sensor adjustment fails

When the ultrasonic sensor adjustment fails, Screen T86 appears. Press the **Function** button to see what error has occurred. After checking the error, press the **Send to** button to return to Screen T04.

Screen T86

Function Display	No.	Scanner status	Available buttons
		Displays “c” without blinking. The adjustment has failed.	Function button: Displays error information (screen T87) Send to button: Terminates this mode and returns to screen T04.

Screen T87

Function Display	No.	Description	Countermeasure when abnormal termination frequently occurs
		1: Adjustment failed because of incorrect sensor output.	Confirm whether this adjustment has been performed with the Adjustment sheet (PA03296-Y990) in Section 6.4. If the adjustment sheet is right, the US sensor or US PCA is defective.

Send to button: Terminates this mode and return to screen T04.

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6.2 Saving EEPROM Data

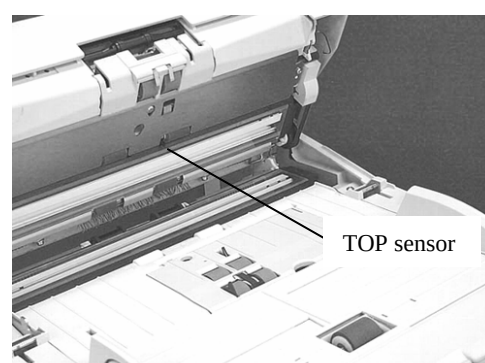
The EEPROM data on the Panel PCA A can be saved to the flash memory of the Control PCA. This operation is required when replacing the Panel PCA A. Since this operation is performed when the Panel PCA A is malfunctioning, the following procedure was designed to save the EEPROM data without the use of the operator panel.

NOTICE

1. Do not perform this procedure unless the Panel PCA A is malfunctioning.
2. The Panel PCA A from which the data was saved to the Control PCA cannot be used again.
3. Make sure to have a new Panel PCA A before saving the EEPROM data.
4. If EEPROM data cannot be saved/restored, the device setting returns to the factory default. Explain your customer and ask to configure the device setting again. (See Note 2.)

[How to save the EEPROM data onto the Control PCA]

1. Open the ADF cover. While pressing the TOP sensor lever (ON), power on the scanner. "P" -> "H" are displayed.
2. Let go of the TOP sensor lever. Press the TOP sensor longer than 1 second twice.
3. Close the ADF cover. "L" is displayed when the Function No. Display is working normally.
4. After more than 5 seconds elapse, open the ADF cover.
5. When the EEPROM data is successfully saved, the ADF front lamp blinks 3 times and  is displayed on the Function No. Display. In case the EEPROM data is not successfully saved, the lamp does not blink and  is displayed on the Function No. Display.



NOTICE

1. If EEPROM data is saved to the Control PCA successfully, the scanner writes some information on the Panel PCA A that disables the usage of it. The replacement of the Panel PCA A is required after saving the EEPROM data to the Control PCA. If the scanner is turned on without replacing the Panel PCA A, "E" and "6" are displayed alternately on the Operator panel which signifies an error.
2. If EEPROM data cannot be saved/restored, the unique setting will not be taken over. The device setting will return to the factory default (initial setting).

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6.3 Test Item List

No.	Maintenance Mode	6.1.2		6.1.3	6.1.4	6.1.5	6.1.6	6.1.7	6.1.8	6.1.9
		Paper feeding test	Sensor test (Impiinter sensor)	Sub-scanning magnification adjustment	Offset adjustment	White level adjustment	Consumable display & reset counter	Miscellaneous information display	EEPROM data restore	Ultrasonic adjustment sensor
1	ADF FIX UNIT	●	●	●	●	●	●			●
2	ADF REV UNIT	●	●	●	●	●	●			●
3	BACK GROUND UNIT F	●			●	●				
4	BACK GROUND UNIT B	●			●	●				
5	INVERTER	●				●				
6	US SENSOR	●								●
7	US PCA	●								●
8	SENSOR (For Pick arm position detection) (For Background switchover mechanism detection) (For Empty sensor)	●	●							
9	PICK SENSOR	●	●							
10	DF SENSOR	●								
11	GUIDE S ASSY	●								
12	PICK MOTOR	●		●						
13	HK RING ME	●		●	●					
14	BW MOTOR (For Pick arm drive) (For Background switchover mechanism drive)	●	●							
15	FEED MOTOR	●		●	●					
16	BELT ADF	●		●	●					
17	TOP SENSOR	●	●		●					
18	SENSOR OP	●	●							
19	OPTICAL UNIT ADF	●			●	●				
20	CONTROL PCA	●								
21	(Reserved)									
22	FUSE 1	●								
23	FUSE 2	●								
24	FUSE 3	●								
25	POWER SUPPLY	●								
26	STACKER ASSY	●		—	—	—	—	—	—	—
27	CHUTE ASSY	●		—	—	—	—	—	—	—
28	CHUTE ROLLER	●		—	—	—	—	—	—	—
29	PANEL UNIT A	●							●*1	
30	PANEL PCA A	●							●*1	
31	PANEL UNIT B	●								
32	PANEL PCA B	●								
33	FAN ASSY	●								
34	CGA BOARD	●								
35	DIMM	●								
36	ADF UNIT	●	●	●	●	●	●			●

*1: Before replacing the Panel Unit A and/or the Panel PCA A, be sure to save the EEPROM data (Section 6.2).

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Chapter 7 Operation and Daily Maintenance

7.1 Basic Operation

7.1.1 Turning the Scanner ON/OFF

Turning the Scanner ON

NOTICE

For a SCSI cable connection, be sure to turn on your computer AFTER turning on the scanner, and making sure number “1” indicates on the Function Number Display.

- (1) Press the “I” side of the Main Power Switch of the scanner.



- (2) Press the [Power] button on the Operator Panel.

The scanner is turned ON, and the Power LED on the Operator Panel lights in green.



Function Number Display

Note that while the scanner is being initialized, the indication of the Function Number Display changes as follows: “8” → “P” → “0” → “1”, where “1” means that the Operator Panel is in the Ready Status.

NOTICE

Use the Main Power Switch to turn on the power if “Power SW Control” using the [Power] button on the Operator Panel has been disabled.

Turning the Scanner OFF

- (1) Press the [Power] button on the Operator Panel for more than 2 seconds.

→ The power is turned off and the Power LED goes off.

- (2) Press the “O” side of the Main Power Switch of the scanner.



NOTICE

Use the Main Power Switch to turn off the power if “Power SW Control” using the [Power] button on the Operator Panel has been disabled.

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7.1.2 Loading Documents on the ADF

This section describes how to load documents on the ADF.

(1) Align the edge of your document.

- 1 Confirm that all the documents have the same width.
- 2 Check the number of sheets in the document stack.

The following is a guideline for the limits on loadable sheets:

- A4/letter-size paper or smaller that makes a document stack of 20 mm or less (80 g/m²)
- A4/letter-size paper or larger that makes a document stack of 10 mm or less (80 g/m²)

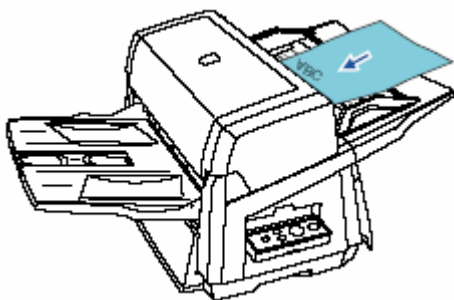
(2) Fan the documents as follows:

- 1 Hold the document stack with both hands and fan it out several times.

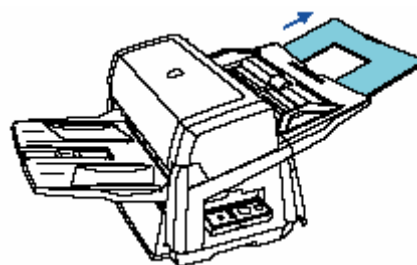


2. Turn the document stack by 90 degrees, and then fan it in the different orientation again.
3. Align the edge of the document.

(3) Load the documents face down on the ADF Paper Chute.



Note: If the documents to scan are long, slide the Paper Chute Extension out from the ADF Paper Chute up to the position where the documents can be fully supported.

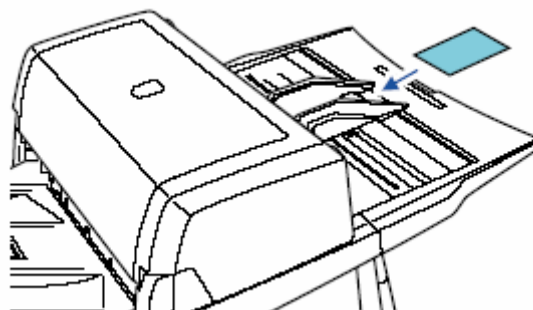


NOTICE

When scanning plastic cards, you need to pay attention to the following:

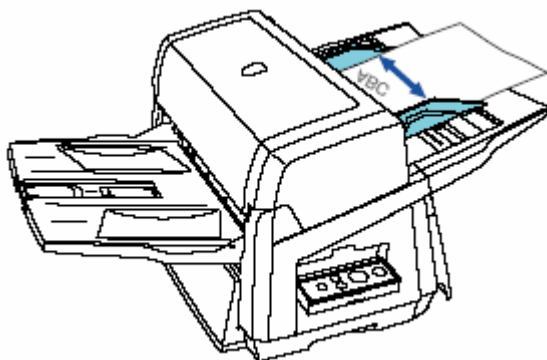
- Place one card on the ADF Paper Chute at a time.
- It is recommended that the front side of the card be placed face down in the ADF.
- Place the card in the following orientation (portrait).
- The card to be scanned should satisfy:
 - ISO7810 type ID-1 type compliant card
 - Size : 86 (height) x 54 (width) mm
 - Thickness : 0.76 ± 0.08 mm
 - Material : Poly vinyl chloride (PVC) or Polyvinyl chloride acetate (PVCA)
- Before scanning your card, test with a dummy card of the same material to see if it can be fed into the ADF properly.
- Embossed cards cannot be scanned.
- Cards that are excessively rigid or less flexible may not feed smoothly.
- Wipe off greasy finger marks if any from the surface of card before scanning the card.
- Cards cannot be scanned when the imprinter is installed.

Place face down.



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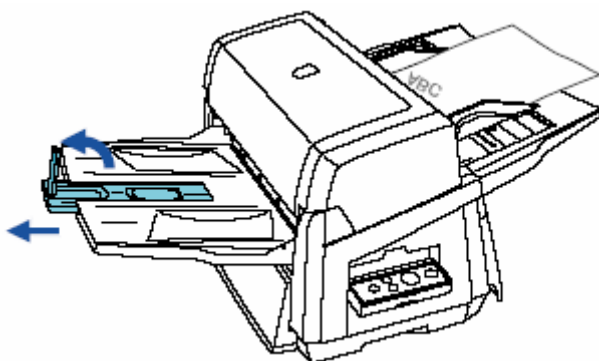
- (4) Adjust the Side Guides to the width of the document.
Slide the Side Guides so they touch both edges of the document lightly.
Any gap between the guides and the document edge may cause skewed images.



NOTICE

- Remove paper clips and staples from the document before scanning.
If multifeed or mis-picking occurs, reduce the number of documents loaded on the Chute.
- When loading small documents, be careful not to touch the hood for the Chute Roller during scanning. Doing so may let the hood open that may catch your finger.

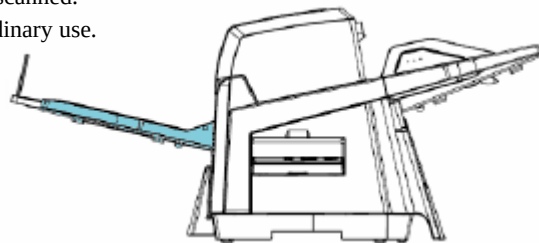
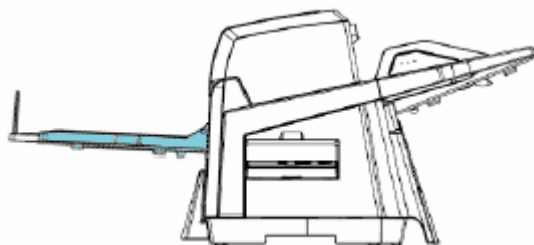
- (5) Pull out the Stacker Extension to the length of the documents, and then raise the Paper Stopper to stop the documents.



NOTICE

Adjust the height of the Stacker according to the paper type being scanned.
Select a desired height. The upper position is recommended for ordinary use.

Select the lower position to scan thin or curled documents.



The number of documents that can be loaded on the ADF decreases when the upper position is selected. (About 100 sheets if the paper weight is 80g/m².)

- (6) Open the scanning application to begin scanning.

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The following is the example of scanning procedure by ScandAll PRO.

1. Start up the ScandAll PRO.

Select the [start] menu → [All Programs] → [Fujitsu ScandAll PRO] → [Fujitsu ScandAll PRO].

→ ScandAll PRO starts up.

2. Select the [Tool] menu → [Preferences].

→ The [Setup] dialog box appears.

3. On the [Scan] tab, under [Device Driver], select either of the drivers, and then click the [OK] button.

4. Select the [Scan] menu → [Select Scanner].

→ The [Select Scanner] dialog box appears.

5. Select a scanner you want to use, and then click the [Select] button.

Select the scanner model name that you connected to the PC. The indication of the scanner name depends on the scanner driver selected. If you use CGA, select “Kofax VRS Scanner.”

Scanner model	TWAIN	ISIS/VRS	
	FUJITSU TWAIN32	FUJITSU ISIS	Kofax VRS
fi-6670	FUJITSU fi-6670dj	Fujitsu fi-6670	Kofax VRS Scanner
fi-6670A			

6. Select the [Scan] menu → [Scan Settings].

On the [Scan Settings] dialog box, specify the folder where the scanned document images are saved into.

7. On the [Scan Settings] dialog box, click the [Scanner Setting] button.

Configure the scan parameters such as “Resolution” and “Paper size.”

8. On the [Scan settings] dialog box, click the [Scan] button.

When the scanning operation is complete, the scanned image is displayed on the ScandAll PRO window.

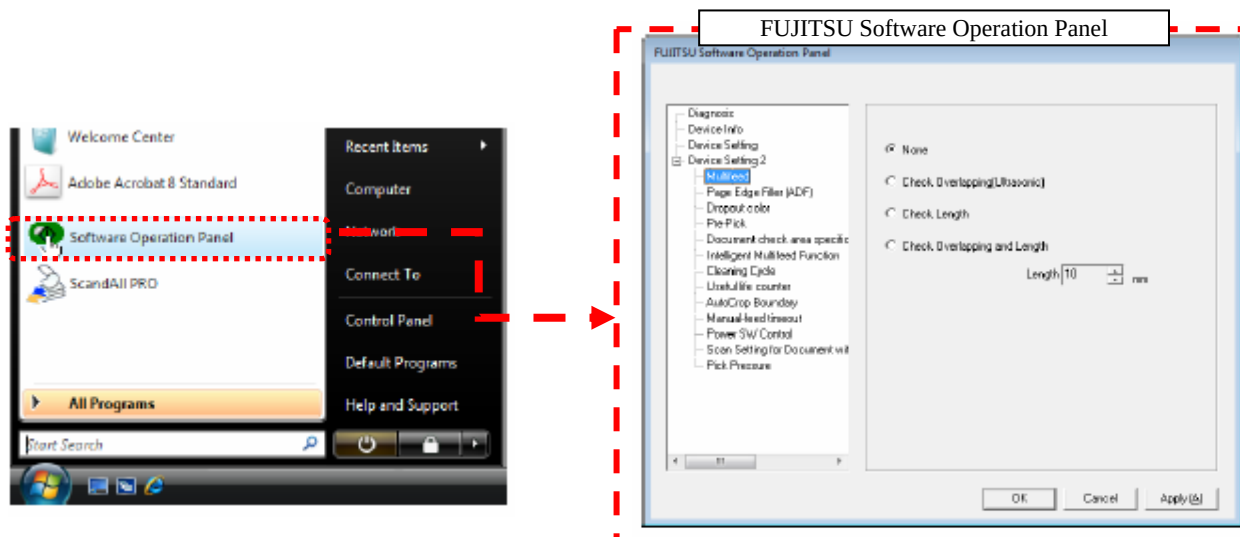
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7.1.3 Software Operation Panel

The Software Operation Panel (SOP) is installed together with the scanner drivers (TWAIN/ISIS).

With this application, you can configure various settings for operating the scanner and for managing its consumables, and the setting information that is necessary to be saved is stored in the EEPROM.

1. Confirm if the scanner is connected correctly to the PC, then power on the scanner.
2. Select the [start] menu → [All Programs] → [Scanner Utility for Microsoft Windows] → [Software Operation Panel].
→ The [Software Operation Panel] dialog box appears.



You can confirm and configure the following items on the Software Operation Panel.

- Diagnosis: Diagnoses the scanner.
- Device Info: Displays various information of the scanner.
- Device Setting: Checks the Page counter, configures Power saving, Offset and Vertical magnification adjustment.
- Device Setting 2: Configures Multifeed, Page edge filler, Dropout color, Useful life counter, etc.

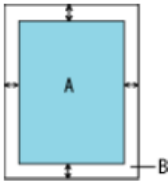
* For the details of each setting, refer to the table below.

[Device setting]

Item	Explanation	Selectable Parameters	Default	Connector 1	Connector 2
				Connection via SCSI/USB connector	
Page Counter (Consumables counters)	For evaluating the consumable replacement cycle. Use this function to reset the counters after cleaning or replacing the consumables.	After cleaning/Brake Roller/Pick Roller	0 pages	Yes	Yes
		Remaining Ink (only when the imprinter option for fi-6670/fi-6670A is installed)	Shown only when the Imprinter option for fi-6670/6670A is installed		
Power saving	Specify the waiting time before entering the Power saving mode.	Setting range: 15 to 55 min. (in steps of 5 min.)	15 min.	Yes	Yes
Offset	Adjust the starting position for the document scanning.	Unit: For connection via SCSI/USB Connector 1: ADF (Front), ADF (Back) For connection via SCSI/USB Connector 2: ADF (Back) Main/Sub: -2 mm to 3 mm (in steps of 0.5 mm)	Main/Sub: 0mm	Yes	Yes
Vertical magnification Adjustment	Adjust the magnification in the feeding direction on the scanning side specified for [Unit].	Setting range: -3.1 to 3.1% (in steps of 0.1%)	0%	Yes	Yes

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[Device Setting 2]

Item	Explanation	Selectable Parameters	Default	Connector 1	Connector 2
				Connection via SCSI/USB connector	
Multifeed	Select the method to detect multifeeds. Check either of overlapping or document length, or both. Can also be specified from the scanner driver's setting dialog box. Note the setting with the scanner driver is given a priority.	None/Check Overlapping [Ultrasonic]/Check Length/Check Overlapping and Length Selectable length (to be detected as length difference): 10, 15 or 20 mm	Check Overlapping [Ultrasonic]	Yes	Yes
Page Edge Filler (ADF)	Fill the specified width of the end sections on the scanned image with white or black color. When the backing (background) color is white, the end sections are filled with white; and when the background color is black, filled with black. Can also be specified from the scanner driver's setting dialog box. Note the setting with a larger value is given a priority. The setting here is not applied when Kofax VRS is used.	ADF: Top/Left/Right: 0 to 15 mm Bottom: -7 to 7 mm (in increments of 1 mm)  (A: Image area, B: Filled area, A+B: Output area)	Top/Bottom/Left/Right: 0mm	Yes	No
Dropout color	Drop out a preselected color for the scanned image (binary black & white/grayscale mode only). Can also be specified from the scanner driver's setting dialog box. Note the setting with the scanner driver is given a priority.	Red/Green/Blue/White	Green	Yes	No
Pre-pick	To give a higher priority to processing speed, select [Yes], if not, select [No]. Can also be specified from the scanner driver's setting dialog box. Note the setting with the scanner driver is given a priority.	Yes/No	Yes	Yes	No

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[Device Setting 2] (Cont'd)

Item	Explanation	Selectable Parameters	Default	Connector 1	Connector 2
				Connection via SCSI/USB connector	
Document check area specification for Multifeed Detection	Selected range: Check this item when limiting the range of detecting multifeeds. You can determine if multifeed detection is enabled or disabled for the specified area.	Check or do not check "Selected range"	Do not check	Yes	Yes
		Enable/Disable (when "Selected range" is checked)	Disable		
	Start: Specify the start point of the check area in length (mm) from the top edge of the document.	0 to 510 mm (in increments of 2 mm)	0mm		
	End: Specify the end point of the check area in length (mm) from the top edge of the document.	0 to 510 mm (in increments of 2 mm)	0mm		
Intelligent Multifeed Function	Bypass multifeed detection by remembering the pattern (size and location) of glued paper on the document. Note that you need to select "Check Overlapping" beforehand.	Manual Mode/Auto Mode 1/Auto Mode 2	Manual mode	Yes	Yes
Cleaning Cycle	Displays the time to clean the consumables. When the number of sheets scanned exceeds the value of this counter, the background color of the counter turns yellow and a cleaning instruction is prompted from the scanner driver. The cleaning instruction is not displayed when CGA (Kofax VRS) is used.	1,000 to 255,000 sheets (in increments of 1,000) Show cleaning instructions: Check/Do not check	10,000 sheets Do not check	Yes	Yes
Useful life counter	When the value of the page counter (consumables counter) exceeds a value specified here, the background color of the counter turns yellow, and a replacing instruction is displayed from the scanner driver.	10,000 to 2,550,000 sheets (in increments of 10,000) for each consumable	200,000 枚	Yes	Yes
SCSI Bus Width	Specify the data transfer width when the connection is via SCSI Connector 2 on the CGA board.	16 bit (Wide)/8 bit	16bit (wide)	No	Yes
AutoCrop Boundary	Select whether to round up or down the fractional part of scanned image data.	Round Up/Round Down	Round Down	Yes	No

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[Device Setting 2] (Cont'd)

Item	Explanation	Selectable Parameters	Default	Connector 1	Connector 2
Manual-feed timeout	Specify the waiting time to disable manual feeding.	Disable/Enable Waiting time setting when this option is enabled: For connection via SCSI/USB Connector 1: 5, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 180, 240, 300, 360, 420, 480, 540, 600, 900, 1200, 1500, 1800, 1999 (in seconds) For connection via SCSI/USB Connector 2: 5, 10, 20, 30 (in seconds)	Disable	Yes	Yes
Power SW Control	Specify whether or not to enable power switch by using the [Power] button on the Operator Panel.	Enable power switch/ Disable power switch	Enable power switch	Yes	Yes
Scan Setting for Document with Tab	For a document that includes index sheets or a document with index stickers (or tabs) attached at its bottom edge, you can specify whether or not to include the index portion (or tab) images during scanning with Auto Paper Size Detection setting. When "Document with tab" is selected, the tab (index) image is included in the document page image. Scanning speed with this setting, however, slows down to a certain degree. Once this setting is enabled, the [Scan Setting for Document in Dark Background Color] option will automatically be disabled.	For connection via SCSI/USB Connector 1: Document with tab/Document without tab/Non-rectangular document For connection via SCSI/USB Connector 2: Document with tab/Document without tab	Document without tab	Yes	Yes
Scan Setting for Document in Dark Background Color	Specify whether or not to detect the edge of document in a dark background color during scanning. You can specify a density of background color so the edge will be detected correctly. Once this option is enabled, the settings for scanning documents with tabs will automatically be disabled.	Disable/Enable Density of background color: 1 to 5 Levels	Disable	No	Yes
Overcrop/Undercrop	Adjust the output image scanned by enabling the Automatic Page Size Detection option.	Overcrop: 0 mm to 3 mm (in increments of 1 mm) Undercrop: -3 mm to 0 mm (in increments of 1 mm)	0mm	No	Yes
Pick Pressure	Specify the pick pressure for feeding documents.	Low/Mid/High	Mid	Yes	Yes

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7.2 Cleaning

⚠ CAUTION

- When operating the scanner, the glass inside the ADF become very hot.
- Before you clean the inside of the scanner, turn off its power and unplug the AC adapter from the DC outlet. Wait for at least 15 minutes for the ADF glass to cool.
- Before you clean the Feed Rollers and Eject Rollers, turn off the scanner and unplug the AC adapter from the DC outlet. Wait for at least 15 minutes, then turn on the power again.
- Do not use any aerosol sprays or alcohol based sprays to clean the scanner. Dust blown up by strong air from the spray may enter the inside of the scanner. This may cause the scanner to fail or malfunction.
Sparks caused by static electricity, generated when blowing off dust and dirt from the outside of the scanner, may cause a fire.

Note:

- The actual cleaning cycle depends on the conditions of the documents scanned. You must clean the scanner more frequently when the following documents are scanned:
 - Smooth-faced documents such as coated paper
 - Documents with printed text or graphics almost covering the entire surface
 - Chemically treated documents such as carbonless paper
 - Documents containing a large amount of calcium carbonate
 - A large volume of documents written with pencil
 - Documents on which the toner is not fused sufficiently

7.2.1 Cleaning the ADF

As a guideline, clean the ADF every 10,000 scanned sheets.

Note that this guideline varies according to the type of documents you scan. For example, it may be necessary to clean the ADF more frequently if documents are scanned when the toner is not fused to the paper properly.

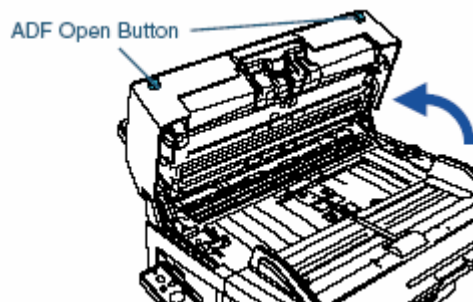
Clean the ADF by following the procedure below.

(1) Turn off the scanner, and wait for at least 15 minutes.

(2) Pushing the ADF Open Buttons, lift open the ADF.

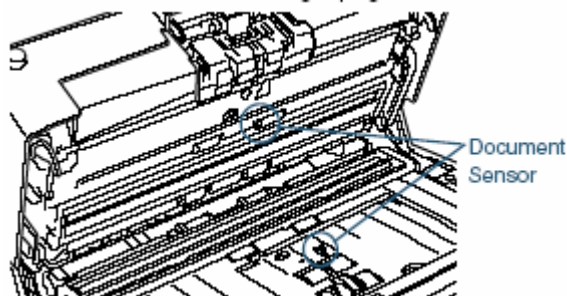
⚠ NOTICE

Be careful, the ADF may close and pinch your finger.



(3) Clean the following locations using a cloth moistened with isopropyl alcohol.

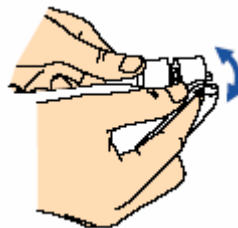
Note: To avoid damaging the document sensors, take care that cloth does not hook them during wiping.



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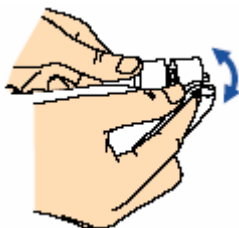
Brake Roller

Lightly clean the Brake Roller along the grooves on the rollers, taking care not to scratch its surface. When cleaning the Brake Roller, remove them from the scanner.

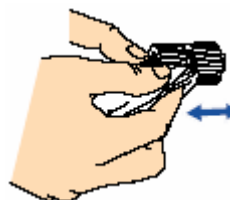


Pick Rollers

Lightly clean the Pick Rollers along the grooves on the rollers, taking care not to scratch their surface. Take particular care when cleaning these rollers as black debris on them adversely affects the paper pick performance.



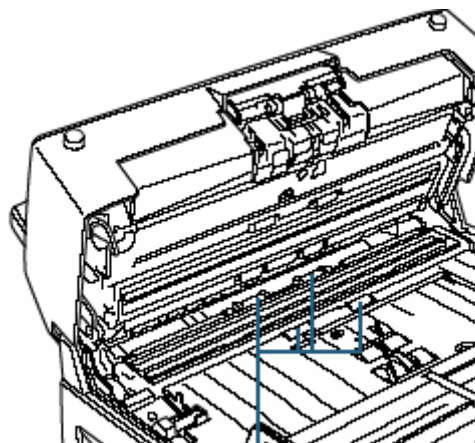
Roller with groove



Roller without groove

Plastic Rollers

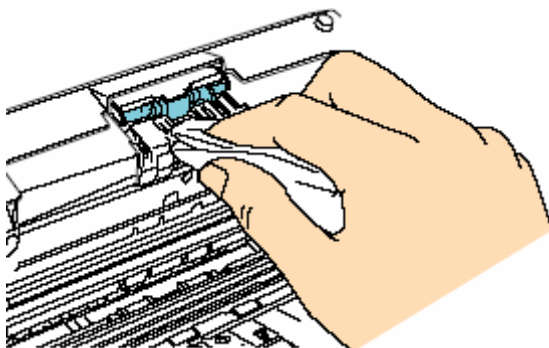
Lightly clean the Plastic Rollers, taking care not to damage their surface. Take particular care when cleaning these rollers as black debris on them adversely affects the pickup performance. Be careful not to damage the sponge HK Rings attached on each side of the rollers.



Plastic Roller (x4)

Pick Arm

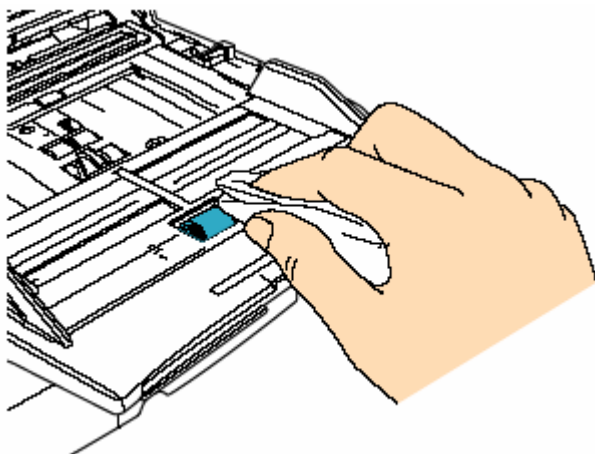
Lightly wipe off the roller at the tip of the Pick Arm.



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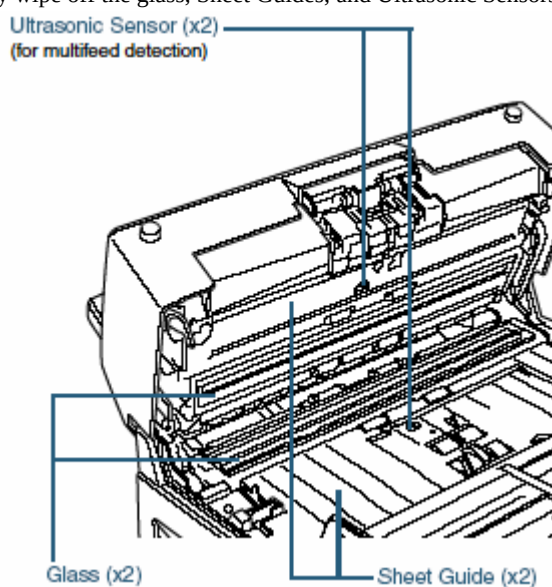
Chute Roller

Lightly wipe off the Chute Roller with its hood open.



Glasses/Sheet Guides/Ultrasonic Sensors

Lightly wipe off the glass, Sheet Guides, and Ultrasonic Sensors.



NOTICE

If the glass is dirty, vertical streaks may appear in the scanned images.

(4) Turn on the scanner. Then clean the Feed Rollers.

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Feed Rollers

1 With the power on, open the ADF when the Operator Panel indicates error code other than “P” and number “0.”

Note that the Feed Rollers will not rotate if you open the ADF and do the following action while “P” and “0” are indicated.

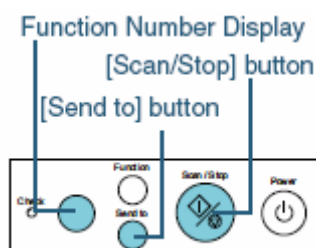
2 Hold down the [Send to] and [Scan/Stop] buttons simultaneously on the Operator Panel. The Feed Rollers and Eject Rollers start to rotate.

NOTICE

Both the Feed Rollers and Eject Rollers turn at the same time.

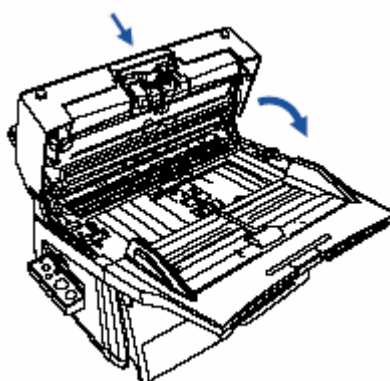
3 Hold a soft cloth moistened with cleaning fluid against the surface of the rotating Feed Rollers and Eject Rollers so that the cloth wipes off the surface of the rollers lightly. Take particular care in cleaning these rollers as black debris on them adversely affects the feeding performance.

As a guideline, pressing of the [Send to] and [Scan/Stop] buttons together seven times turn the Feed Rollers and Eject Rollers one full rotation.



(5) Close the ADF.

Press down on the center of the ADF to return it to its original position until the ADF Open Buttons are locked.



Note: Make sure the ADF is completely and properly closed. Feeding errors may occur if the ADF is not closed properly.

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7.3 Consumables and Replacement

- When operating the scanner, the glasses inside the ADF become very hot.
- Before you replace the consumables, turn the scanner off and unplug the power cable. Wait for at least 15 minutes for the ADF glasses to cool down.

7.3.1 Consumables

The scanner has the following consumables which users need to replace at the following intervals. To check the number of scanned documents, go to Maintenance mode (Section 6.1.6) or the Software Operation Panel of the scanner (Section 7.1.3).

For Imprinter (option) consumables: See Section 8.1.1

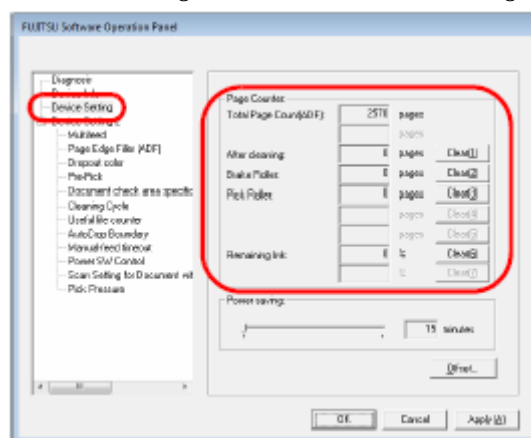
No.	Part name	Specifications	Standard replacement cycle *1	How to check the number of scanned documents	How to replace
1	Brake roller	PA03576-K010	250,000 sheets or one year	See Section 7.3.2.	See Section 7.3.3.
2	Pick roller	PA03338-K011	250,000 sheets or one year		See Section 7.3.4.

* The replacement cycles above are rough guidelines for the case of using A4/Letter-sized woodfree or wood containing paper of 64 g/m² (17 lb) in weight. This cycle varies according to the type of the paper used and how frequently the scanner is used and cleaned.

Note: Use only the specified consumables to avoid document feeding trouble.

7.3.2 Checking and Resetting the Consumables Counters

- (1) Start up the Software Operation Panel.
Select [start] menu -> [All Programs] -> [Scanner Utility for Microsoft Windows] -> [Software Operation Panel].
- (2) From the tree listing on the left, select [Device Setting].



In the dialog box, you can confirm the following items:

Item	Description
Total Page Count (ADF)	Total scanned sheets using the ADF
After cleaning	Total sheets scanned after last cleaning
Brake Roller	Number of sheets scanned since last replacement of Brake Roller
Pick Roller	Number of sheets scanned since last replacement of Pick Rollers
Remaining Ink	Remaining ink in the imprinter's (option) print cartridge (Displayed only when the imprinter option is used.)

- (3) Click the [Clear] button beside the replaced consumables.
- (4) Click the [OK] button on the cleaning instruction displayed.
➔ The counter is reset to 0.

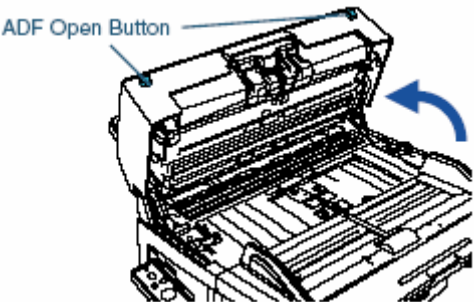
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7.3.3 Replacing the Brake Roller

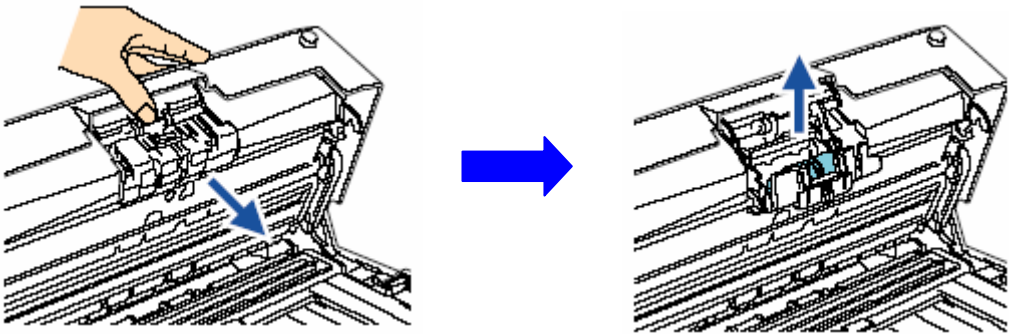
- (1) Remove all the documents (if any) from the ADF Paper Chute.
- (2) Pushing the ADF Open Buttons, lift open the ADF.

 NOTICE

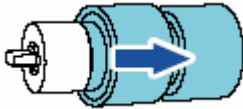
Be careful, the ADF may close and pinch your fingers.



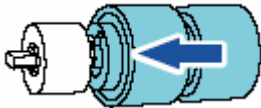
- (3) Holding the Brake Roller Holder, open the cover of the Brake Roller in the arrow-indicated direction, and then remove the Brake Roller from the scanner.



- (4) Remove the Brake Roller from its shaft.

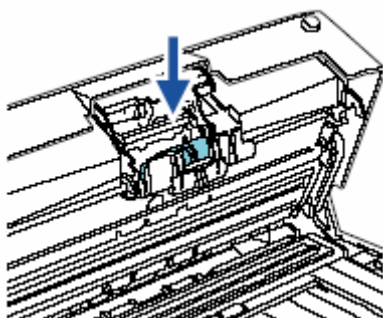


- (5) Attach a new Brake Roller by joining the groove of the shaft with the protruding section of the rotating shaft.

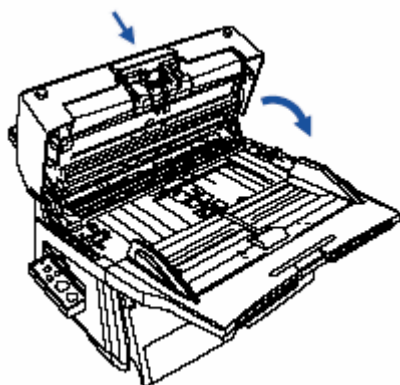


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- (6) Place the Brake Roller in the holder by aligning the flat section of the rotating shaft to the guide slot of the Brake Holder on the scanner, and then close the Brake Roller Holder.



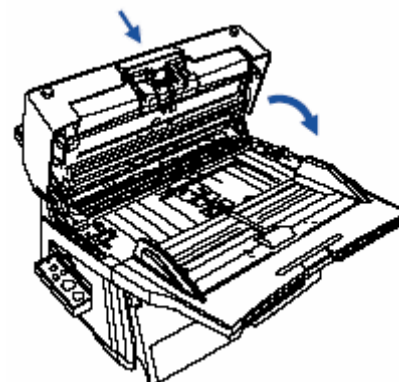
- (7) Close the ADF by pressing down the center of the ADF to return to its original position until the ADF clicks into place.



NOTICE

- Be careful, the ADF may close and pinch your fingers.
- Do not close the ADF while the Brake Roller Cover is open.
- Confirm that the Brake Roller is attached firmly. If not, paper feed errors such as multifeeds will occur.

- (8) Reset the brake roller counter by referring to Section 7.3.2.



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7.3.4 Replacing the Pick Rollers

NOTICE

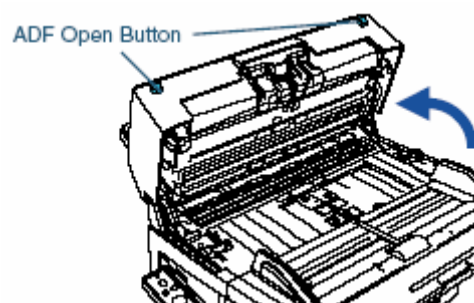
The scanner has two Pick Rollers. Be sure to replace both of them at the same time.

(1) Remove documents (if any) from the ADF Paper Chute.

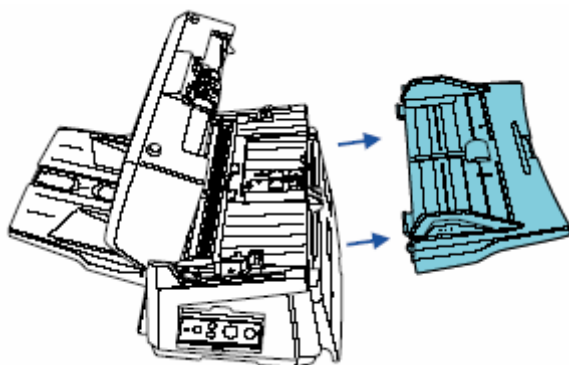
(2) Pushing the ADF Open Buttons, lift open the ADF.

NOTICE

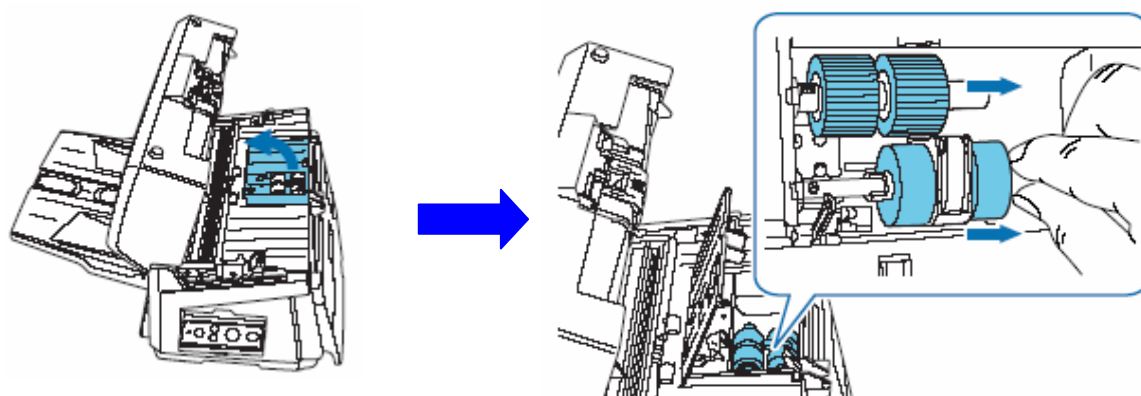
Be careful, the ADF may close and pinch your fingers.



(3) Remove the ADF Paper Chute.

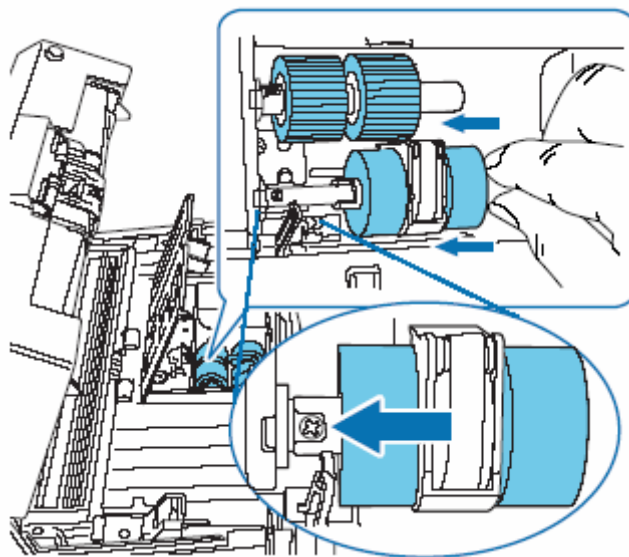


(4) Open the Pick Roller Cover and pull out the Pick Rollers (x2) from the rotating shaft on the scanner.



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- (5) Insert each new Pick Roller so its socket will fit on to the rotating shaft screws on the scanner, and close the Pick Roller Cover. Confirm that both sides of the cover are locked firmly.

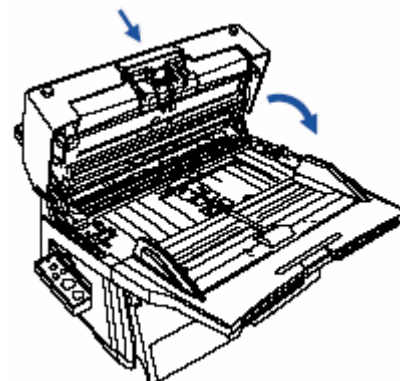


- (6) Attach the ADF Paper Chute.

- (7) Close the ADF by pressing down the center of the ADF to return to its original position until the ADF clicks into place.

NOTICE

- Be careful, the ADF may close and pinch your fingers.
- Do not close the ADF while the Pick Roller Cover is open.
- Confirm that the Pick Rollers are attached firmly. If not, paper feed errors such as paper jams will occur.



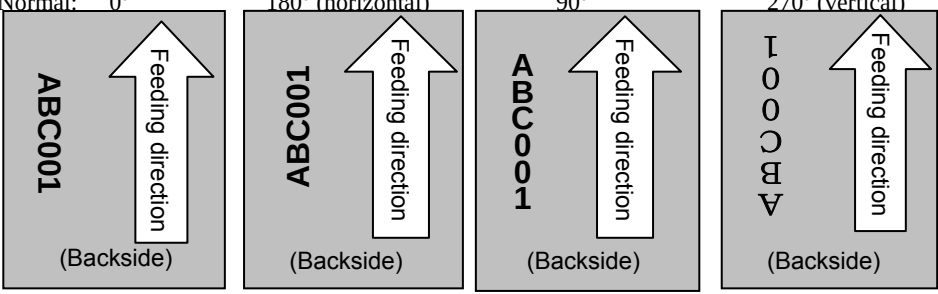
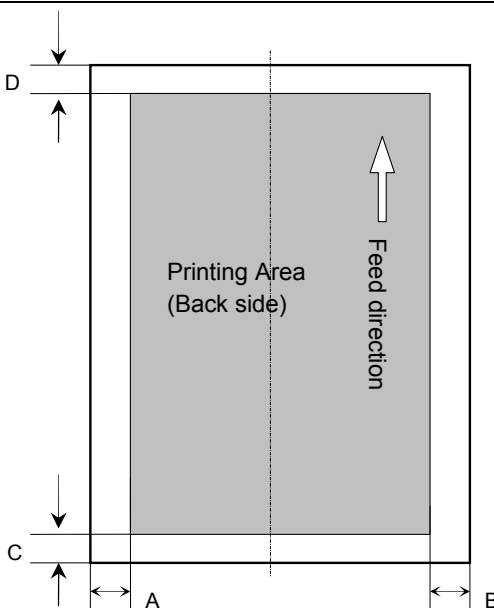
- (8) Reset the pick roller counter by referring to Section 7.3.2.

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Chapter 8 Imprinter

8.1 Imprinter Specification

8.1.1 Printing Specification

Item	Specification
Printing Method	Thermal inkjet printing
Print Timing	Post printing (printing after scanning)
Printing Characters	Alphabet : A~Z, a~z Numeric Characters : 0, 1~9 Symbols : ! " \$ % & ' () * + , - . / : ; < = > ? @ [\] ^ _ ` { } ~
Number of characters per line	Maximum 43 characters
Print orientation	Normal: 0° 180° (horizontal) 90° 270° (vertical)  Narrow: 0° 180° (horizontal)
Character size (Verti. X Holi.)	Normal: Height 2.91mm × width 2.82mm / 0.1146 × 0.1110 inch (horizontal orientation), Height 2.82mm × width 2.91mm / 0.1110 × 0.1146 inch (vertical orientation) Narrow: Height 2.91mm × width 2.12mm / 0.1146 × 0.0835 inch (horizontal orientation)
Character pitch	Normal: 3.53mm / 0.139 inch, Narrow: 2.54mm / 0.100 inch
Font Style	Regular, Bold
Character width	Normal, Narrow
Document that can be scanned	Documents supported by fi-6670 / fi-6670A Documents that are not easily interfused such as art paper or coated paper are not suitable for imprinting. ATTENTION  - Documents with glossy surface such as thermal paper, thermal transfer paper, coated paper, and art paper take longer time for the ink to dry and may cause poor print quality. The imprinter must be cleaned more frequently if you use these types of papers. - Very thick paper or plastic document cannot be scanned when the imprinter is installed.
Printing area	 $A \geq 5\text{mm}$ $B \geq 5\text{mm}$ $C \geq 5\text{mm}$ $D \geq 5\text{mm}$ Note: Do not print less than 5mm of the page margins.

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Item	Specification
Accuracy of printing position	±4mm from the starting point for feeding direction
Interface	Exclusive interface for Imprinter
Consumable (Life-span of the Ink)	Print cartridge (CA00050-0262) Color: Black Replacement Cycle: 4,000,000 characters (64,000,000 dots) or 6 months (The number of characters may decrease depending on the font selection.)
	  

8.1.2 Imprinter Installation Specification

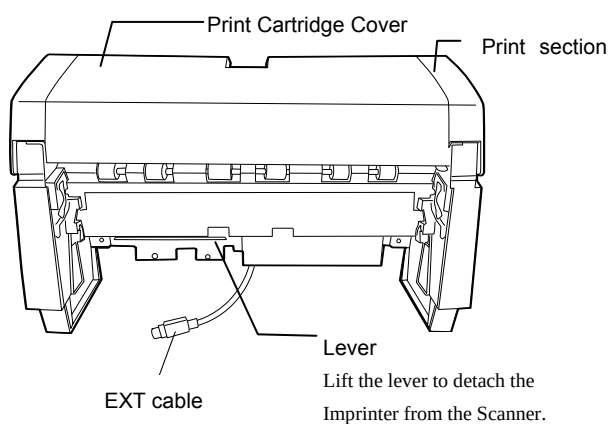
Installation Specification				
Item	Specification			Remarks
Outer dimension (mm, lb)	Width	Depth	Height	
	416 (16.39)	157 (6.18)	252 (9.92)	Imprinter dimension
	432 (17.02)	749 (29.51)	300 (11.81)	Imprinter with scanner dimension
Weight (kg)	Less than 5.0kg (11.02 lb)			Imprinter only
Input voltage (V)	Not necessary (supplied by scanner)			
Environment	Condition	Operating	Non operating	
	Temperature (Degree C)	10 to 35	-20 to 60	
	Humidity (%)	20 to 80	10 to 95	

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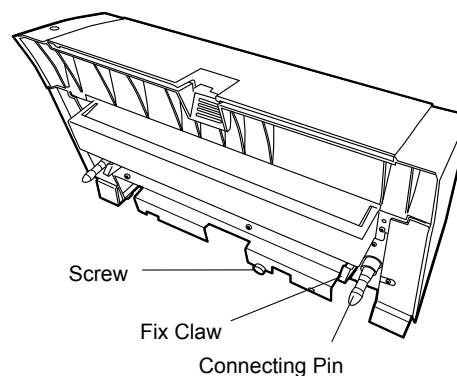
8.1.3 Names of Component Parts

<Imprinter Unit>

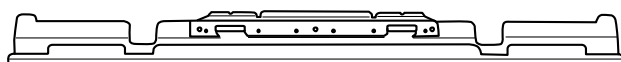
Front Side



Rear Side

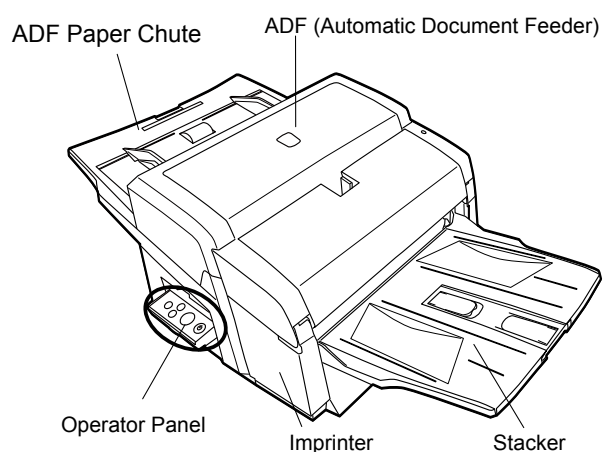


<Attachment Guide>

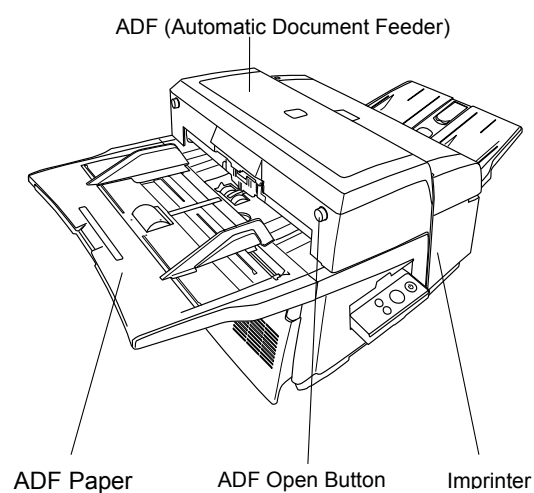


<Imprinter with Scanner Installed>

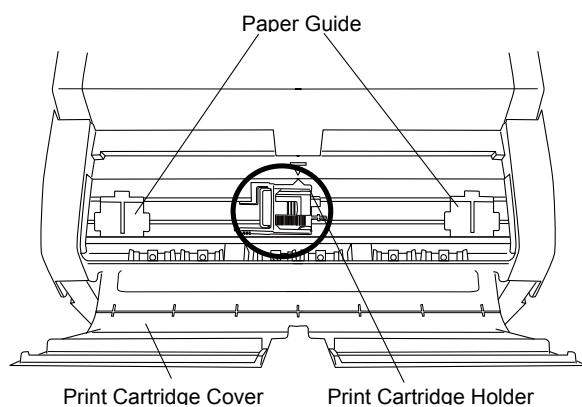
Front Side



Rear Side



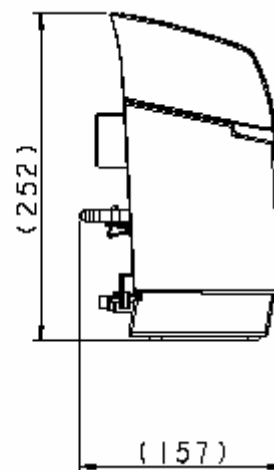
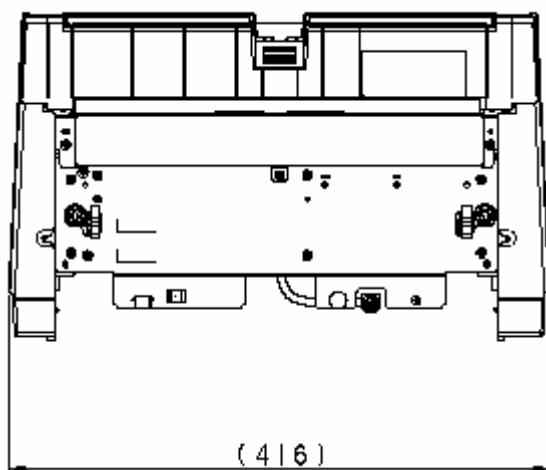
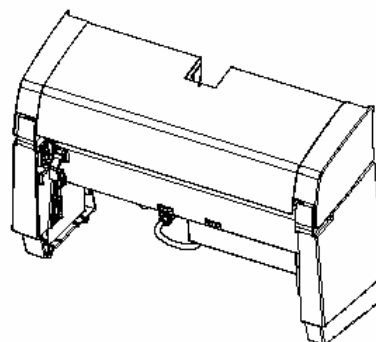
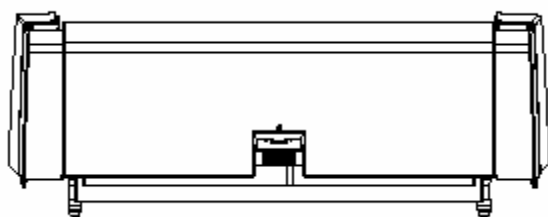
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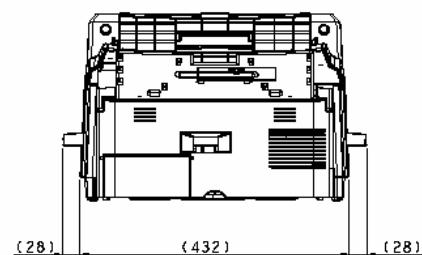
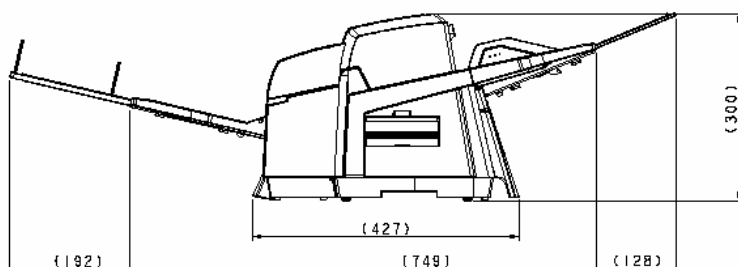
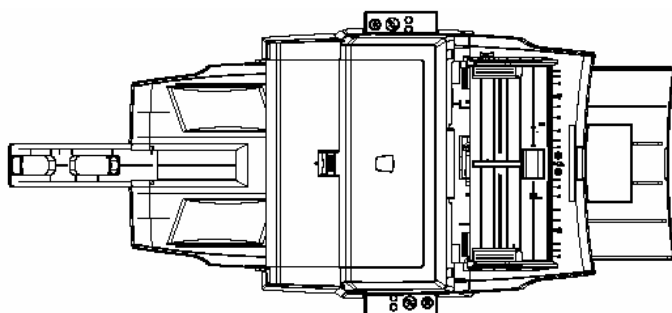
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8.1.3 Dimensions

<Imprinter>



<Scanner with Imprinter>



Unit: mm

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8.2 Operation

8.2.1 Operation

When the power is turned ON, the scanner firmware checks if the Imprinter EXT cable is connected to the scanner. If the EXT cable is connected, the firmware judges that the Imprinter is installed, and then starts controlling the print head and sensors, and driving the Feed rollers by the Feed motor.

The leading edges of documents fed from the ADF are detected by the sensors, and used for imprinting timing control. When the Print section is open, “Imprinter cover open” is detected by the Switch (Section 4.3.13).

To prevent the Print section and ADF cover from interfering each other, open the Print section of the Imprinter first and then open the ADF cover. When closing them, follow the reverse order.

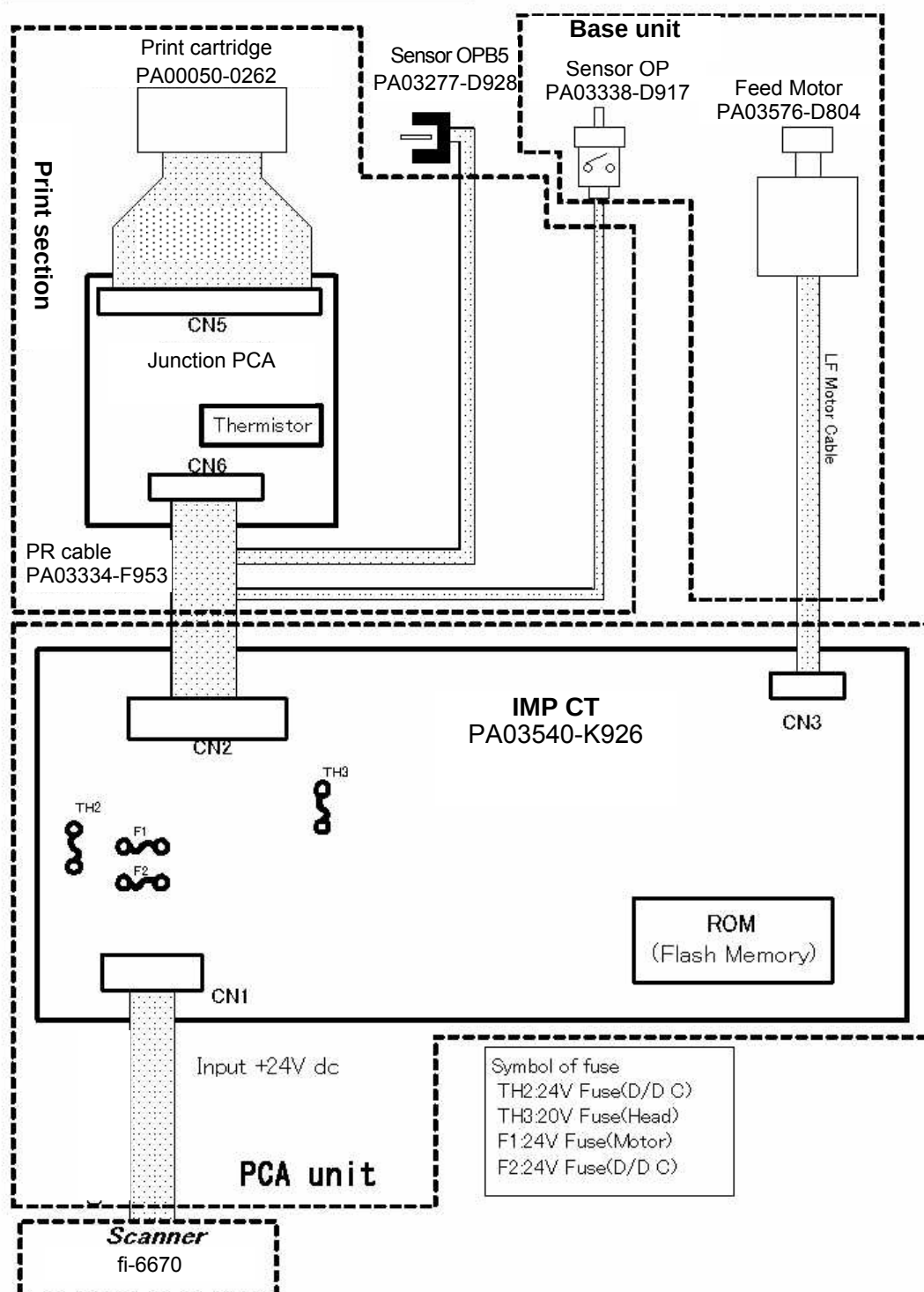
If Print cartridge replacement message appears on the PC monitor, replace the cartridge, and then reset the Remaining ink counter (Section 8.9.4).

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8.2.2 Block Diagram

Following figure shows the electric component block diagram of Imprinter.

Electric Component Block Diagram



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8.3 Unpacking and Installation of Imprinter

This chapter describes the unpacking instructions, and installation of the Imprinter.

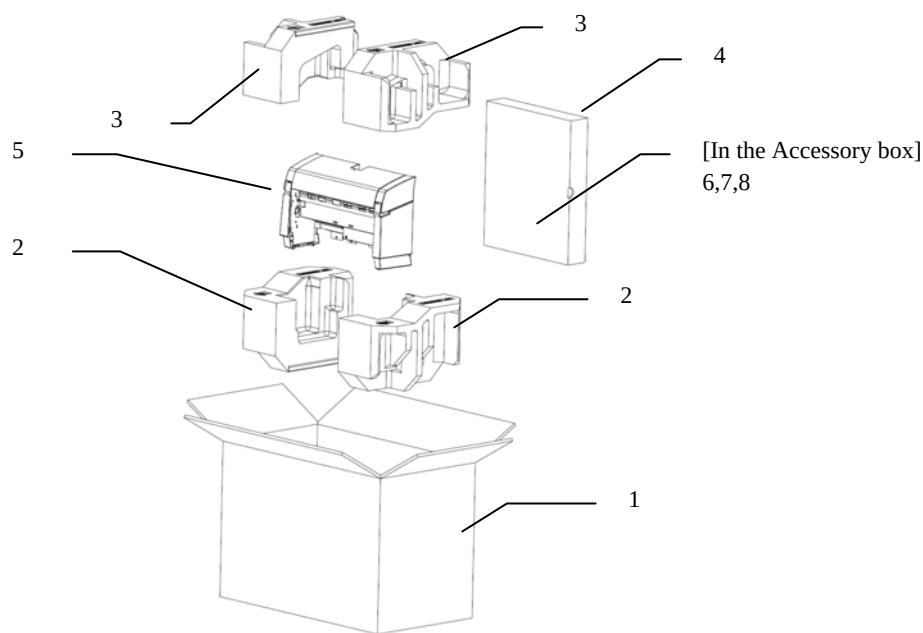
8.3.1 Unpacking

Follow the procedures below when unpacking the Imprinter. Confirm that all the accessories are included after unpacking.

- (1) Open the box.
- (2) Remove the accessories and separation board.
- (3) Remove the Cushion T and Imprinter from the box.
- (4) Take out the Imprinter from the PET bag.
- (5) Remove the protection tape from the Imprinter.

Table below shows the list of packaging configuration list and figure below shows the packaging configuration.

No.	Description	Quantity	Remarks
1	Outer box	1	
2	Cushion B	1	
3	Cushion T	1	
4	Accessory box	1	
5	Imprinter	1	
6	Print cartridge	1	
7	Attachment guide	1	
8	Imprinter Operator's guide	1	



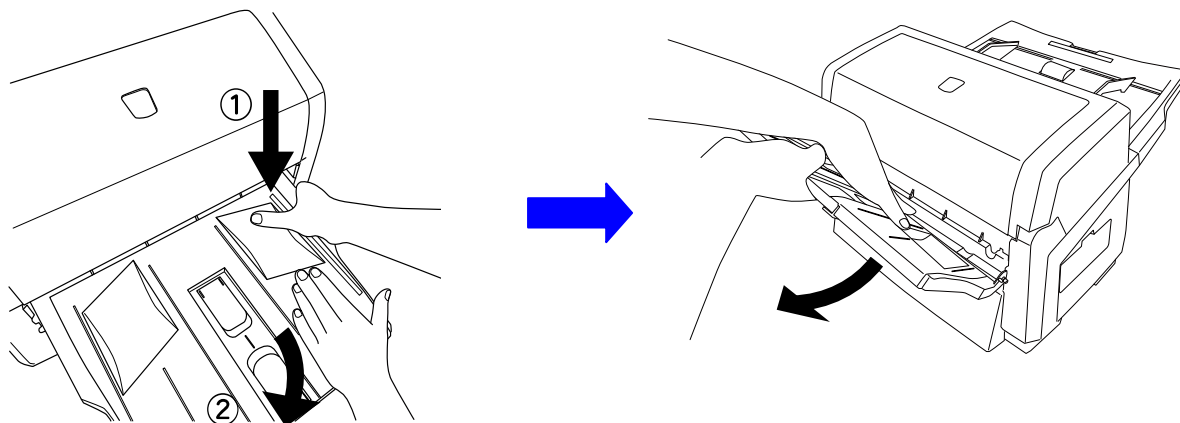
05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.			Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
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8.3.2 Installing / Removing the Imprinter

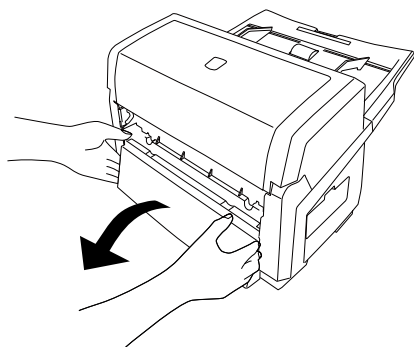
<Installation>

- (1) Turn off the Scanner and disconnect the electrical power cable.
- (2) Remove the Stacker from the scanner.

Press down on the center of the stacker to bow it, and then remove the stacker pin from the scanner to remove the Stacker.

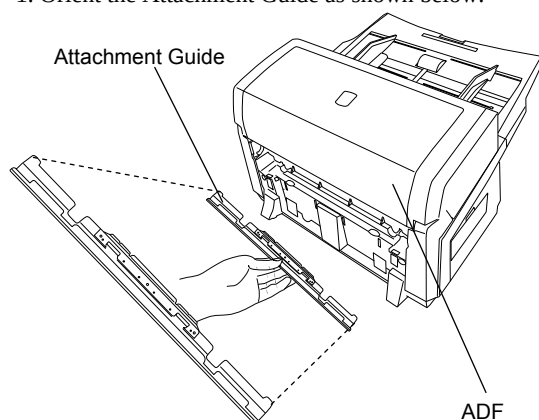


- (3) Open the cable cover horizontally, and bow it down to remove.

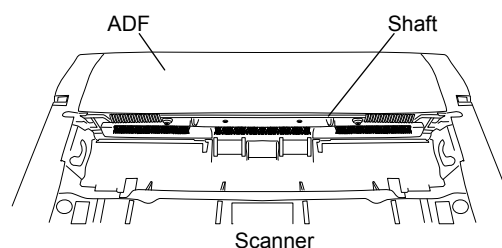


You must remove the Stacker and Cable Cover before installing the Imprinter onto the Scanner.

- (4) Install the Imprinter to the scanner.
 1. Orient the Attachment Guide as shown below.

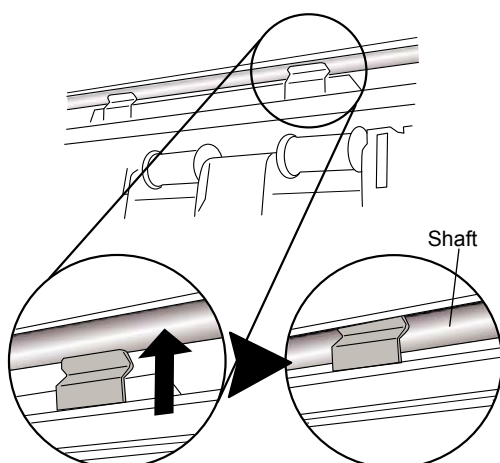


2. Check the Shaft from below.

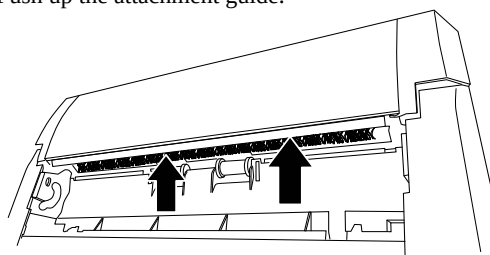


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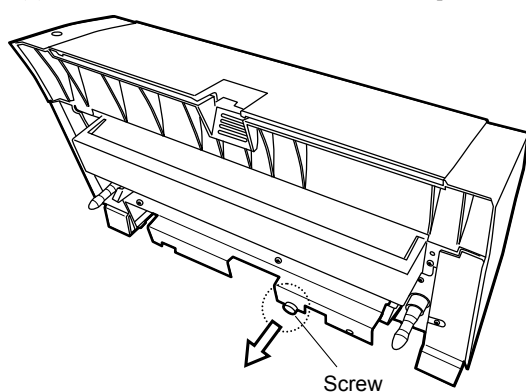
3. Locate the Attachment Guide along the shaft.



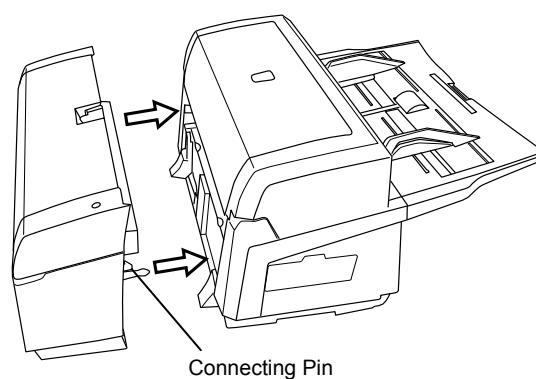
4. Push up the attachment guide.



(5) Remove the attached screw from the Imprinter's rear position.



(6) Install the Imprinter on to the Scanner.

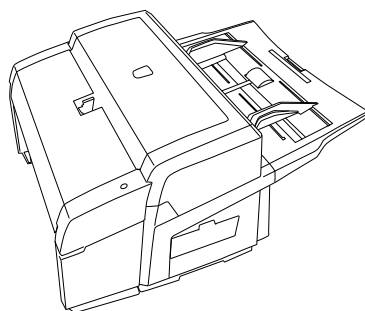


To install the Imprinter on to the scanner, insert the connecting pins located on the Imprinter's rear into the scanner's round holes.

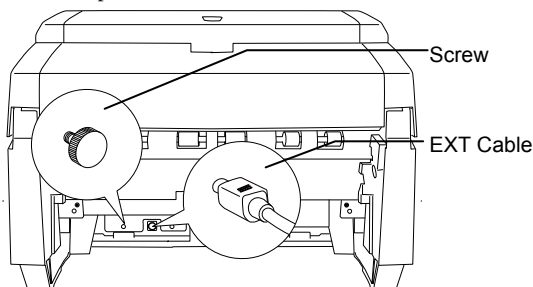
- Do not hold the bottom of the Imprinter wherever lifting it up.
- Attach the imprinter firmly on to the scanner. (→ Confirm that the Imprinter does not separate from the Scanner when pulled.)
- Be careful not to pinch your fingers.

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See the imprinter in
this direction



- (7) Attach the Thumb screw to secure the Imprinter.

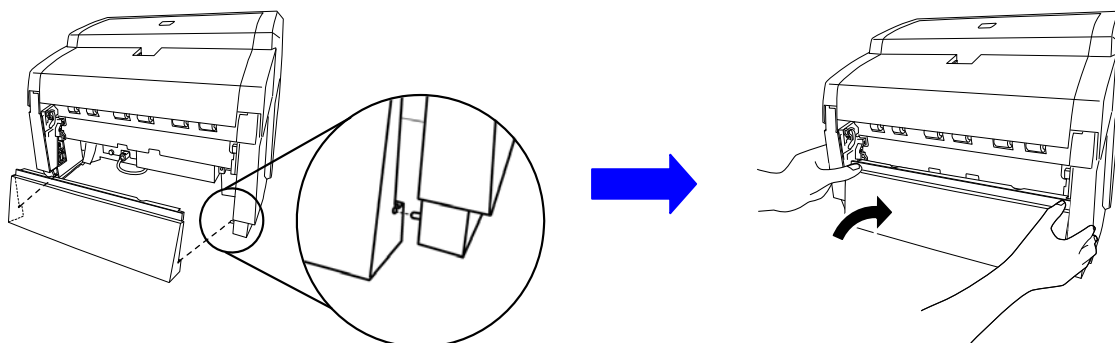


- (8) Connect the EXT Cable to the scanner's rear connector.

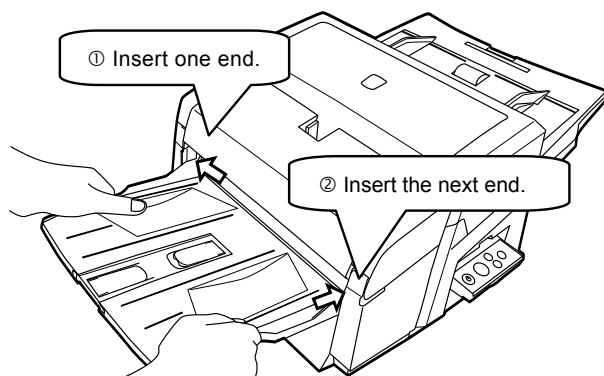
The Imprinter will not work if the EXT cable is not connected to the Scanner. Scanning when the EXT cable is not connected will cause documents to jam inside the Imprinter.

- (9) Replace the Cable cover (removed in step 3) to the Imprinter.

Hook the cover onto the imprinter by fitting the cover's lower side slots to the corresponding protrusions on each side of the imprinter. Pushing on the upper part of the cover, fix it to the imprinter.



- (10) Replace the Stacker (removed in step (2)) into the Imprinter.

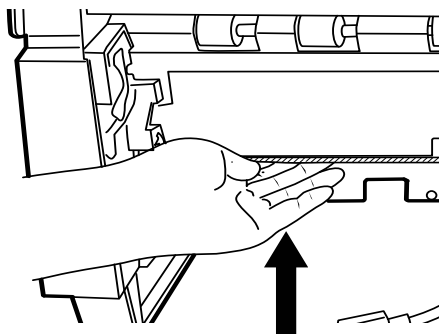


- (11) Connect the power cable to the scanner.

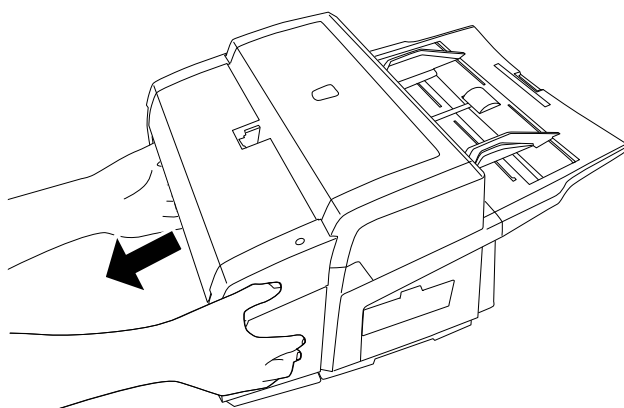
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<Removal>

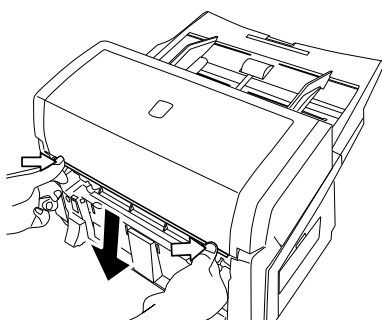
- (1) Remove the Stacker from the Imprinter.
- (2) Remove the Cable cover located under the Stacker from the Imprinter.
- (3) Disconnect the EXT cable from the EXT connector of the scanner.
- (4) Remove the Thumb screw that secures the scanner to the imprinter.
- (5) Push up the lever located at bottom left of the Imprinter.



- (6) Remove the Imprinter by pulling it out in the direction of the arrow as shown below.



- (7) Pressing your fingers on the Attachment Guide, slide it down and out to remove.



- (8) Replace the Cable cover (removed in step 2) to the scanner.
- (9) Replace the Stacker (removed in step 1) to the scanner.

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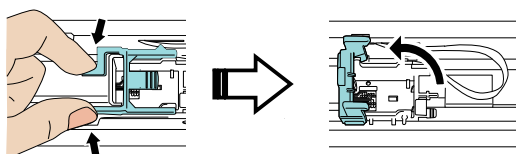
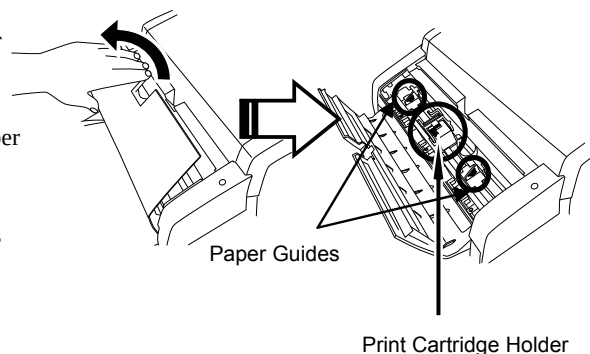
8.3.3 Installing the Print Cartridge

Install the print cartridge as follows:

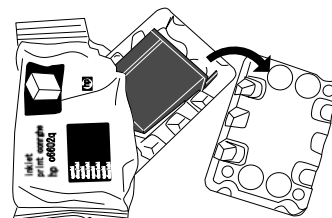
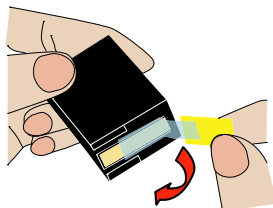
NOTICE

When installing or replacing the print cartridge, be careful not to insert it improperly.

- (1) Confirm that the scanner is turned off.
- (2) To open the print cartridge cover, grasp and pull open the center of the cover as shown to the right.
- (3) Remove the packing tape from the Print Cartridge Holder and Paper Guides.
- (4) Open the Print Cartridge Holder by pinching and lifting up its locking lever with your fingers, as shown below.

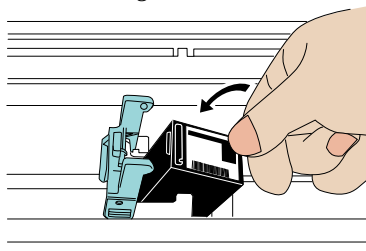


- (5) Remove the new print cartridge from its pouch.
- (6) Remove the protective tape from the new Print Cartridge.



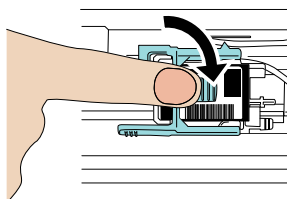
Do not touch the metal part of the cartridge or put the tape back on again.

- (7) Insert the Print Cartridge into the holder as shown below with its tab pointing to the right.



Be careful not to let the Print Cartridge touch or catch the print circuit film.

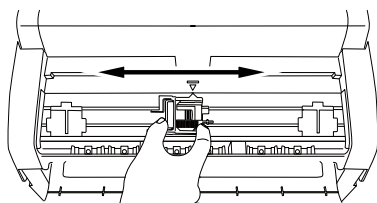
- (8) Lower the locking lever of the Print Cartridge Holder until it locks the cartridge in place.



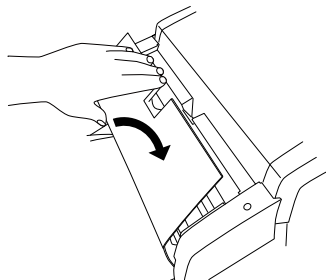
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(9) Position the Print Cartridge Holder along where the document will pass through.

→ The print will be located on the page properly for your application.



(10) Close the Print Cartridge Cover.



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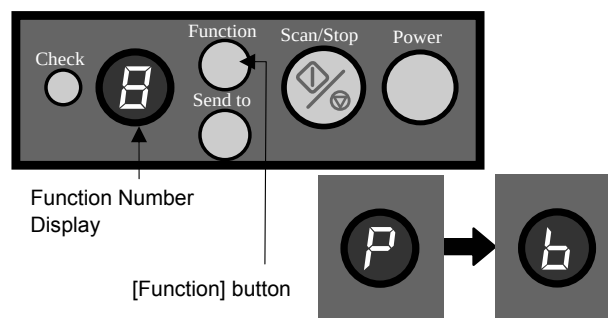
8.3.4 Operating Test

After installing the Imprinter, perform the following Offline Print Test to test its operation. There are six patterns that are printed during the test. One pattern is printed on a sheet of paper.

- (1) Turn OFF the scanner.
- (2) While pressing the [Function] button on the operator panel, switch on the scanner.

Continue pressing on the [Function] button.

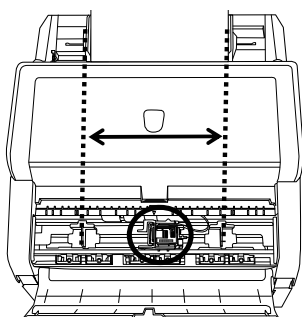
- (3) Release the [Function] button when the Function Number Display changes from [P] to [b].



- (4) Place some blank sheet of paper on the ADF Paper Chute.

To print all six test patterns, place six sheets or more.

- Use A4 or Letter size paper. If the size is smaller than A4 or Letter, printing may not successfully complete.
- Confirm that the Print Cartridge is positioned within the document width.



- (5) Press the [Scan/Stop] button to test.

➔ Paper will feed into the ADF, and the Imprinter will print out the Print Test Characters starting at 5mm from the paper's edge. (The range of error is ± 4 mm.)

- (6) To print the next pattern, return to step (5).

The following test patterns are printed.

Test pattern 1 (Horizontal):

ABCDEFGHIJKLMNOPQRSTUVWXYZ[¥]^_`00000000

Test pattern 2 (Horizontal):

abcdefghijklmnopqrstuvwxyz{|}~ 00000000

Test pattern 3 (Horizontal):

!"#\$%&()*+,-./0123456789:;<=>?@00000000

Test pattern 4 (Vertical):

ABCDEFGHIJKLMNOPQRSTUVWXYZ[¥]^_`00000000

Test pattern 5 (Vertical):

abcdefghijklmnopqrstuvwxyz{|}~ 00000000

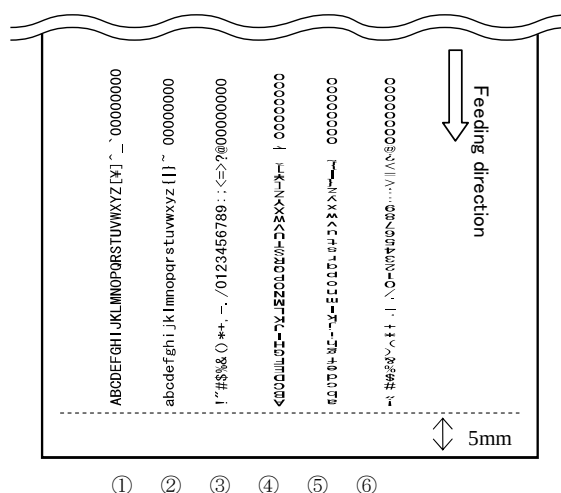
Test pattern 6 (Vertical):

!"#\$%&()*+,-./0123456789:;<=>?@00000000

Every single press of the [Scan/Stop] button prints one test pattern.

The test print repeats test patterns from 1 through 6.

The numbering data portion "00000000" changes from 0 with increments of 1.



Print test sample

- (7) To stop Offline Print Test mode, turn off the scanner by pressing the [Power] button.

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8.4 Maintenance Parts for Imprinter

No.	Description	Part Number	Quantity.	Appearance (Section)	Replacement procedure (Section)	Remarks
1	Sensor OPB5	PA03277-D928	1	8.4.1	8.6.6.1	
2	IM Holder ASSY	PA03540-E971	1	8.4.2	8.6.4.4	Includes Holder lever
3	IM Pinch ASSY	PA03540-E970	6	8.4.3	8.6.4.2	
4	Feed Motor	PA03576-D804	1	8.4.4	8.6.6.3	
5	IM Holder lever	PA03540-F922	1	8.4.5	8.6.4.1	
6	FPC cable	PA03334-F952	1	8.4.6	8.6.4.4	
7	PR Cable	PA03334-F953	1	8.4.7	8.6.6.4	
8	IM Felt	PA03334-F954	1	8.4.8	8.6.6.5	
9	Thumb Screw	PA03334-F959	1	8.4.9	8.6.7	
10	IMP CT	PA03540-K926	1	8.4.10	8.6.5	
11	Junction PCA	PA03334-K961	1	8.4.11	8.6.4.3	
12	Sensor OP	PA03338-D917	1	8.4.12	8.6.6.2	

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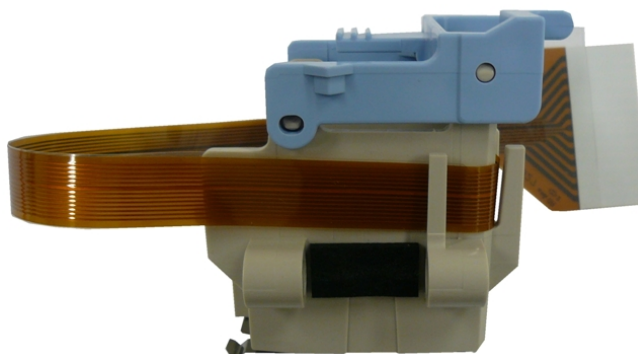
8.4.1 Sensor OPB5

Description	Part Number	Remarks
SENSOR OPB5	PA03277-D928	



8.4.2 IM Holder ASSY

Description	Part Number	Remarks
IM HOLDER ASSY	PA03540-E971	Includes the holder lever and FPC cable.



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8.4.3 IM Pinch ASSY

Description	Part Number	Remarks
IM PINCH ASSY	PA03540-E970	Maintenance part unit: 1 (Six units are mounted on one Imprinter.)



8.4.4 Feed Motor

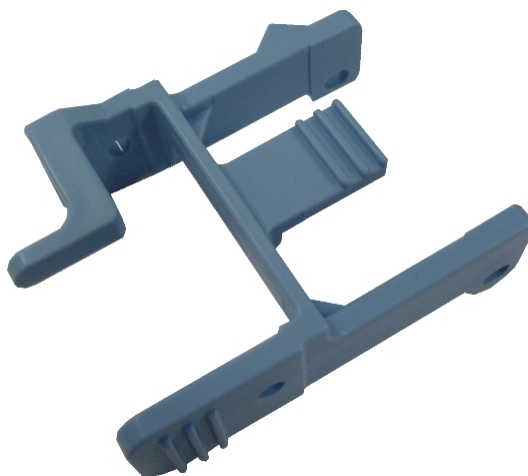
Description	Part Number	Remarks
FEED MOTOR	PA03576-D804	



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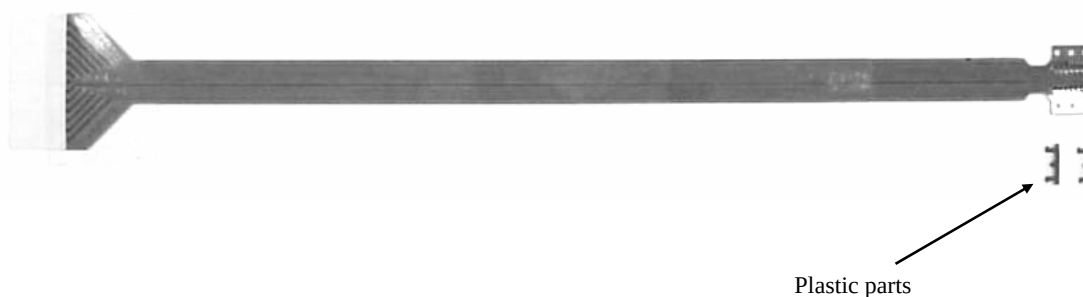
8.4.5 IM Holder Lever

Description	Part Number	Remarks
IM HOLDER LEVER	PA03540-F922	



8.4.6 FPC Cable

Description	Part Number	Remarks
FPC CABLE	PA03334-F952	Two plastic parts are included.



05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual		
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.			
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		P1PA03576—B50X/6		
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					APPR.	I.Fujioka			

8.4.7 PR Cable

Description	Part Number	Remarks
PR CABLE	PA03334-F953	



8.4.8 IM Felt

Description	Part Number	Remarks
IM FELT	PA03334-F954	



05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.				
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		P1PA03576—B50X/6			
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						APPR.	I.Fujioka			

8.4.9 Thumb Screw

Description	Part Number	Remarks
Thumb Screw	PA03334-F959	



8.4.10 IMP CT

Description	Part Number	Remarks
IMP CT	PA03540-K926	Factory-set EEPROM (default) is mounted on the maintenance part.



05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		Drawing No.	P1PA03576—B50X/6		
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.					
Rev.	D A T E	DESIG.	CHECK	APPR.	DESCRIPTION	PFU LIMITED			Page	192 / 231
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8.4.11 Junction PCA

Description	Part Number	Remarks
JUNCTION PCA	PA03334-K961	



8.4.12 Sensor OP

Description	Part Number	Remarks
SENSOR OP	PA03338-D917	



05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.					
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Drawing No.	P1PA03576—B50X/6			
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8.5
Troubleshooting

Refer to Chapter 4 “Troubleshooting.”

05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.					
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.					
						Drawing No.	P1PA03576—B50X/6			
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DESIG.	May 28, 2008	K.Okada	CHECK	T.Anzai						
						APPR.	I.Fujioka			

8.6 Maintenance Procedure

This chapter explains the precautions needed before maintenance, removing and attaching covers, and replacing the maintenance parts.

8.6.1 For Safety Operation



Caution

Be careful not to pinch your fingers, or hook your hair or jewelry by the mechanism of the unit.

Precaution before maintenance:

- Thoroughly clean the unit before working.
- Follow disassembly and assembly instructions carefully.
- Store the disassembled parts so as not to lose them.
- Check the condition and parts count after replacement.
- Assemble the unit in reverse order of disassembly.

Periodic inspection of the Imprinter shall be performed with the same timing of the scanner inspection

8.6.2 Maintenance Tools

Table below lists tools for maintenance of the Imprinter.

No.	Tools	Remarks
1	Philips screw driver	For M3 and M4 screws
2	Small flat-blade screwdriver	For removing E-ring and lever switch
3	Pliers	For removing clamp, assembling E-ring
4	Alcohol	Ethyl alcohol or isopropyl alcohol for cleaning
5	Spring gauge	1kg or 500g for adjusting belt tension
6	Metal straightedge	150mm for adjusting belt tension

8.6.3 (Reserved)

05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual		
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
						Drawing No.	P1PA03576—B50X/6		
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DESIG.	May 28, 2008	K.Okada	CHECK	T.Anzai	APPR. I.Fujioka				

8.6.4 Parts replacements in the Print Section

8.6.4.1 IM Holder Lever

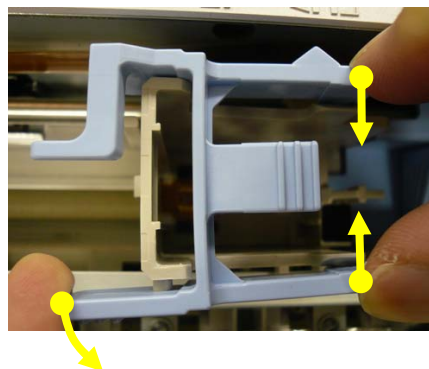
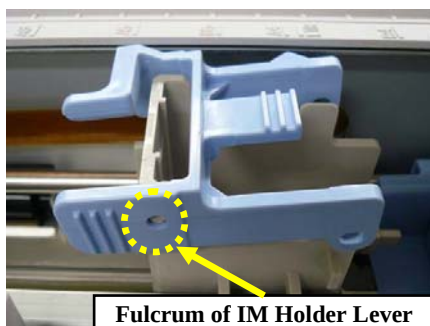
NOTICE

Refer to Section 8.4.5 for the part number of the IM Holder Lever.

<Removal>

(1) Open the Print cartridge cover.

(2) Widening the fulcrum of the IM holder lever which holds the print cartridge, remove the IM holder lever.



IM Holder Lever

<Installation>

Follow the above procedure in reverse.

05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual		
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
						Drawing No.	P1PA03576—B50X/6		
Rev.	D A T E	DESIG.	CHECK	APPR.	DESCRIPTION	PFU LIMITED		Page	196 / 231
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						APPR.	I.Fujioka		

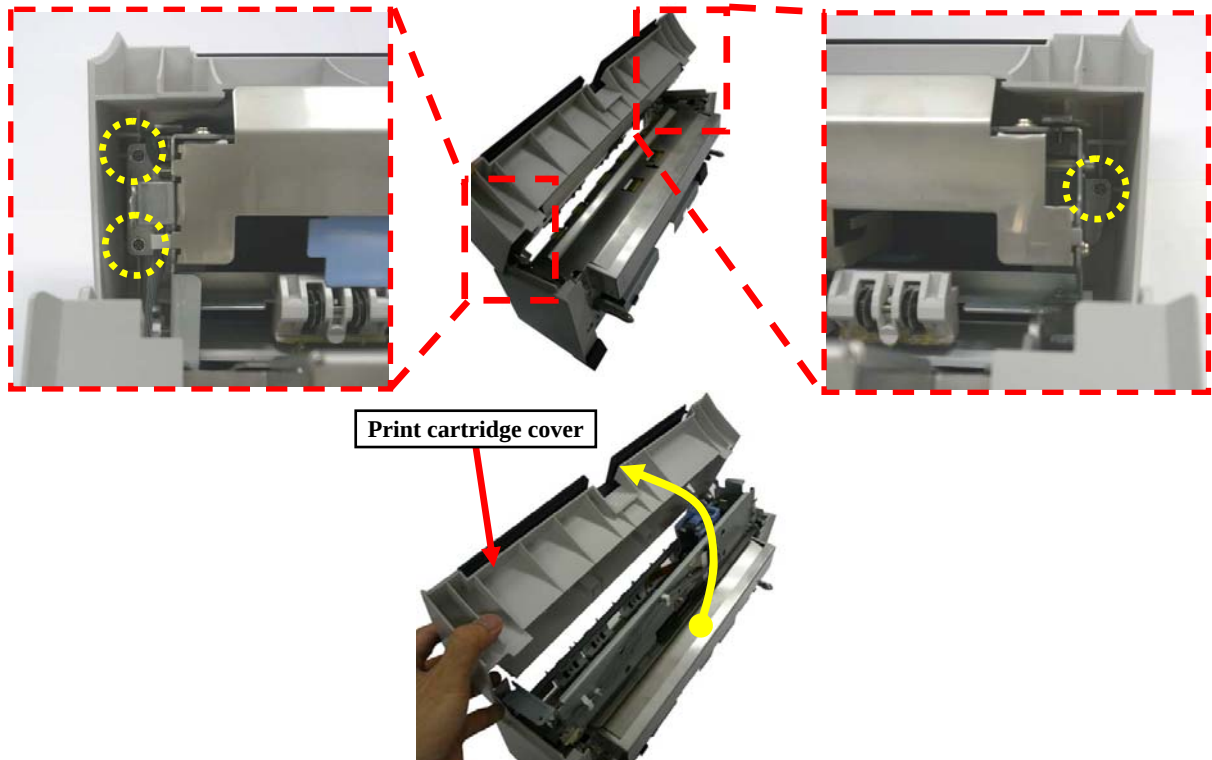
8.6.4.2 IM Pinch ASSY

NOTICE

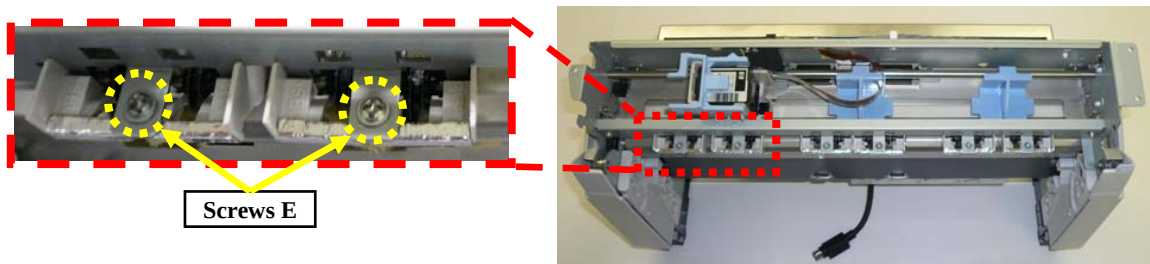
Refer to Section 8.4.3 for the part number of the IM Pinch ASSY.

<Removal>

- (1) Remove the Imprinter from the scanner by referring Section 8.3.2.
- (2) Remove the Imprinter cover as follows.
 - Open the Print section.
 - Remove the three screws E from inside of the Print section cover.
 - Close the Print section and remove the Print cartridge cover while opening it.

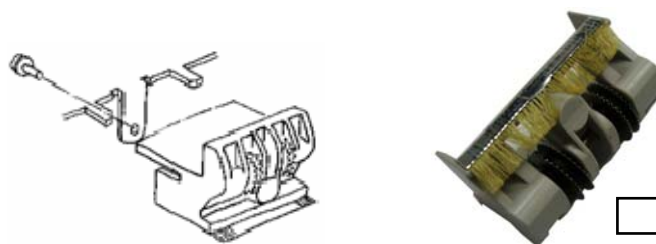


- (3) Remove the two screws E that secure each IM Pinch ASSY, and remove the IM Pinch ASSY(s) by opening the Print section frame.



<Installation>

Follow the above procedure in reverse by referring to the illustration below.



IM Pinch ASSY

05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR		
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		Maintenance Manual		
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		P1PA03576—B50X/6		
Rev.	D A T E	DESIG.	CHECK	APPR.	DESCRIPTION	Drawing No.	PFU LIMITED		
DESIG.	May 28, 2008	K.Okada	CHECK	T.Anzai		APPR.	I.Fujioka	Page	197/231

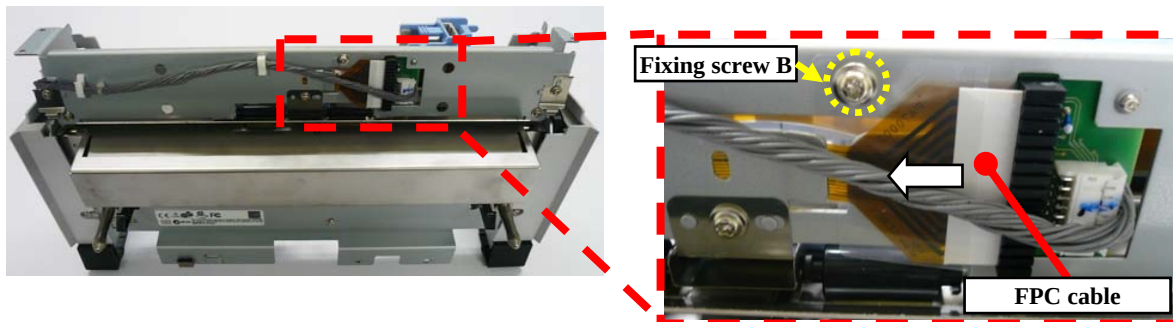
8.6.4.3 Junction PCA

NOTICE

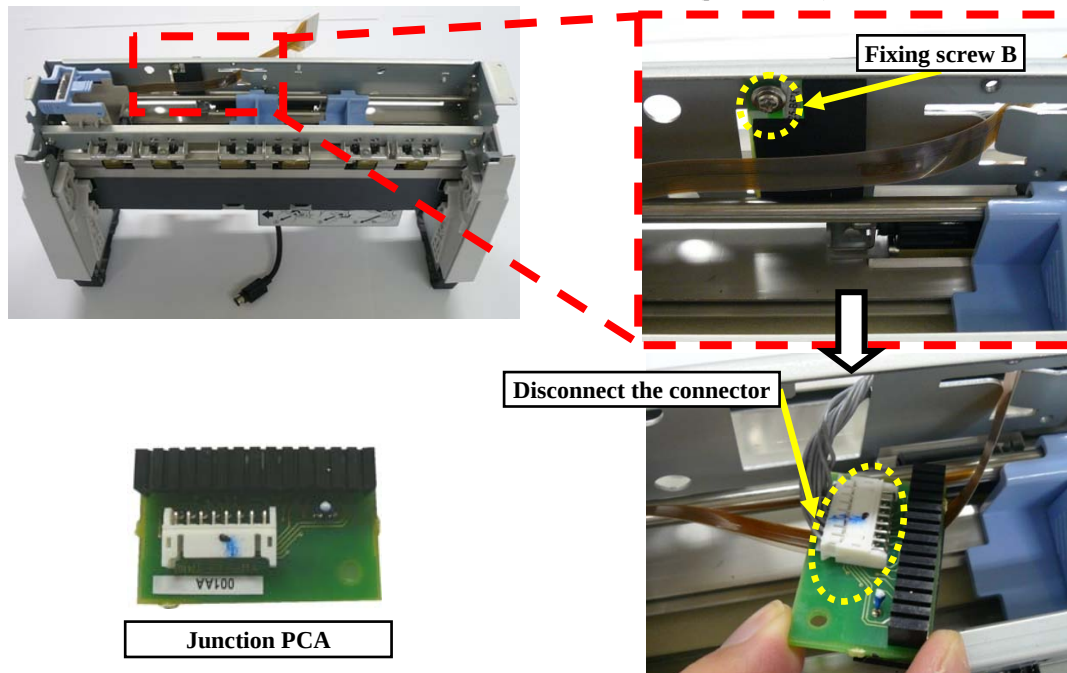
Refer to Section 8.4.11 for the part number of the Junction PCA.

<Removal>

- (1) Remove the Imprinter from the scanner by referring to Section 8.3.2.
- (2) Remove the Print cartridge cover by referring to step (2) in Section 8.6.4.2.
- (3) Remove the screw B that secures the FPC cable, and disconnect the FPC cable from the Junction PCA.



- (4) Remove the screw B from the Junction PCA, and remove the Junction PCA (photo below).



<Installation>

Follow the above procedure in reverse.

05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.			Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.							
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.			Drawing No.	P1PA03576—B50X/6			
Rev.	D A T E	DESIG.	CHECK	APPR.	DESCRIPTION			PFU LIMITED			Page	198 / 231
DESIG.	May 28, 2008		K.Okada	CHECK	T.Anzai		APPR.					

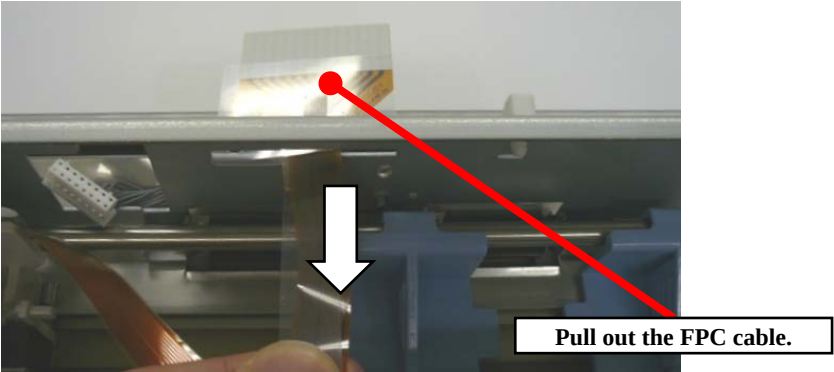
8.6.4.4 IM Holder ASSY / FPC Cable

 NOTICE

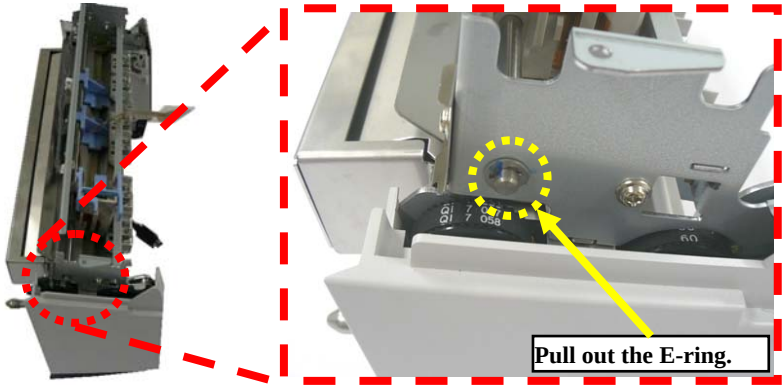
Refer to Section 8.4.3 for the part number of the IM Holder ASSY, and Section 8.4.6 for that of the FPC Cable.

<Removal>

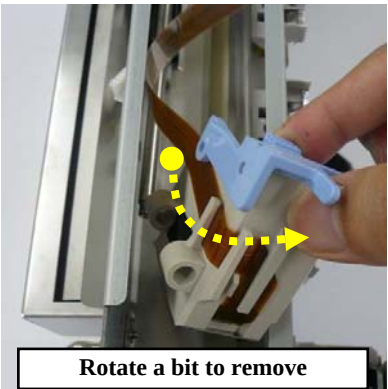
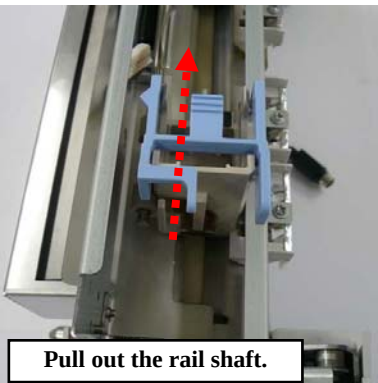
- (1) Remove the Imprinter from the scanner by referring to Section 8.3.2.
- (2) Remove the Print cartridge cover by referring to step (2) in Section 8.6.4.2.
- (3) Disconnect the FPC cable from the connector by referring to step (3) in Section 8.6.4.3.
Pull out the FPC cable through the frame hole to the IM Holder ASSY side.



- (4) Remove the E-ring from the frame side plate.



- (5) Pulling out the rail shaft of the IM Holder ASSY, rotate the IM Holder ASSY a bit in the direction of the arrow in the photo below to remove.



<Installation>

Follow the above procedure in reverse by taking care of the following points.

05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR		
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		Maintenance Manual		
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		P1PA03576—B50X/6		
Rev.	D A T E	DESIG.	CHECK	APPR.	DESCRIPTION	Drawing No.	PFU LIMITED		
DESIG.	May 28, 2008		K.Okada	CHECK	T.Anzai		Page	199	231

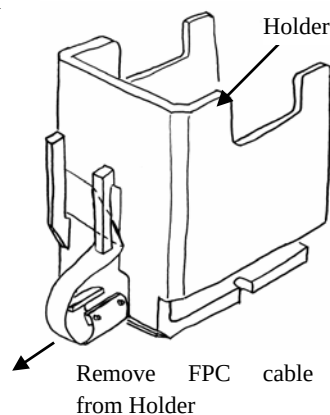
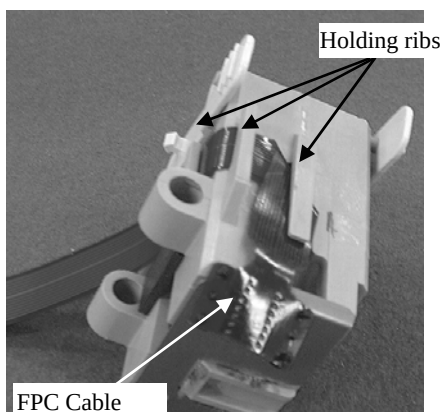
When removing the FPC cable, follow the procedures below.

(6) Remove the two plastic parts from the Holder with a small flat screwdriver (refer to the drawing below).

Note: Be careful not to lose the rubber cushions on the bottom of the Holder

(7) Remove one end of the FPC cable from the Holder as shown in the figure to the right.

(8) Remove the FPC cable from all the cable holding ribs.

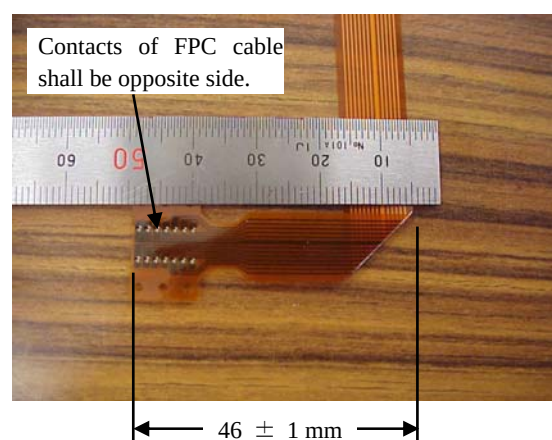
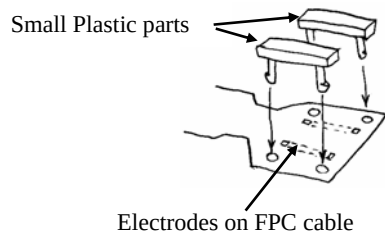


<Installation>

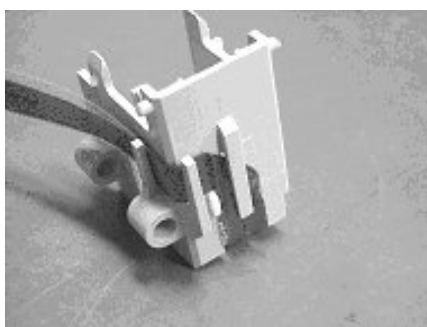
Follow the above procedure in reverse by taking care of the following points.

1. Fold the new FPC cable as shown in the right figure.

2. The small plastic parts come with FPC cable. Insert the two small plastic parts into the holes of FPC cable near electrodes.



3. Route the new FPC cable as shown in the photo below.



05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual		
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
Rev.	D A T E	DESIG.	CHECK	APPR.	DESCRIPTION	Drawing No.	P1PA03576—B50X/6		
DESIG.	May 28, 2008		K.Okada	CHECK	T.Anzai	APPR.	PFU LIMITED		Page 200/231

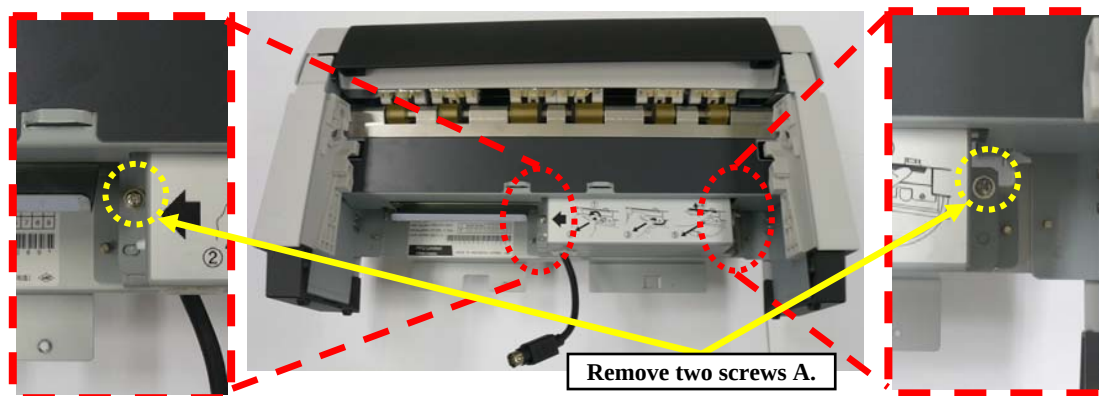
8.6.5 IMP CT

 NOTICE

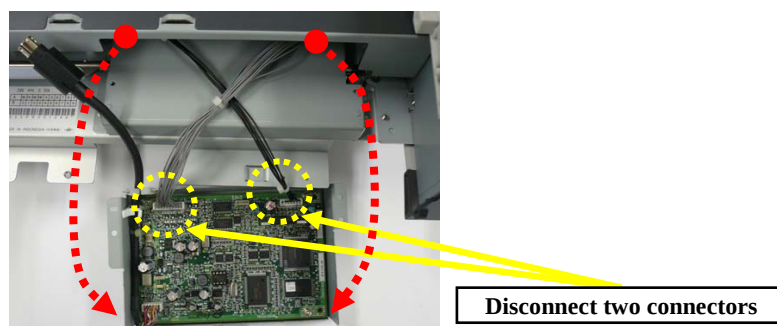
Refer to Section 8.4.10 for the part number of the IMP CT.

<Removal>

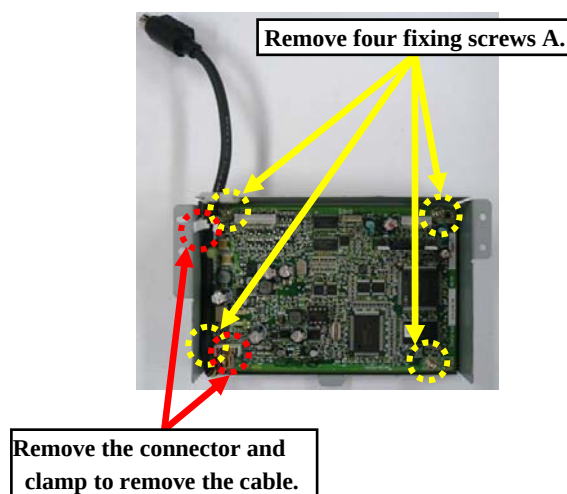
- (1) Remove the Imprinter from the scanner by referring to Section 8.3.2.
- (2) Remove the two screws A from the document exit side.



- (3) Pull the PCA cover out of the Imprinter, and then open it to the front. Disconnect the two connectors from the IMP CT (photo below).

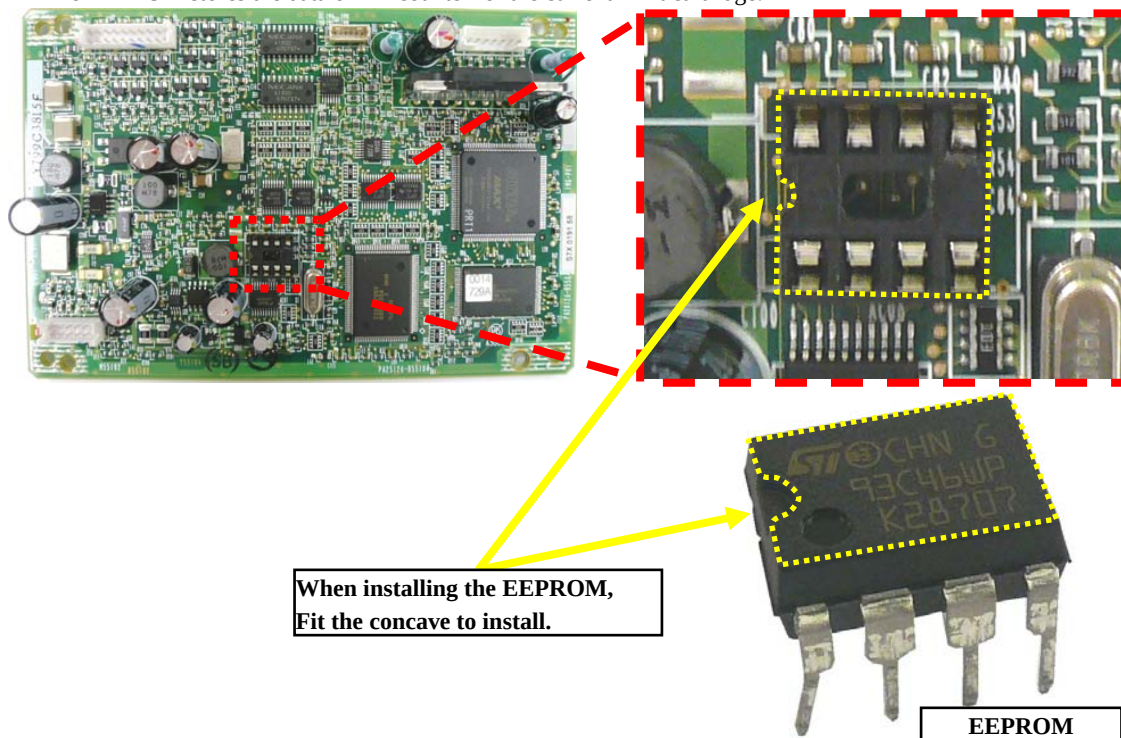


- (4) Remove the cable (connector and clamp) and the four screws A from the IMP CT, and remove the Control PCA.



05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		Drawing No.	P1PA03576—B50X/6		
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.					
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- (5) Remove the EEPROM from the IMP CT and install it onto the new IMP CT.
The EEPROM stores the data of Ink counter for the current Print cartridge.



<Installation>

Follow the above procedure in reverse.

Note: When installing the PCA cover, insert the PCA cover tab into the square hole at the rear of the Imprinter.

05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual		
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.				
Rev.	D A T E	DESIG.	CHECK	APPR.	DESCRIPTION	Drawing No.	P1PA03576—B50X/6		
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							PFU LIMITED		Page 202 / 231

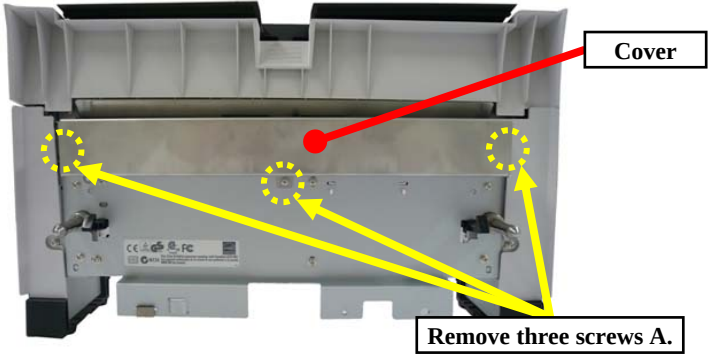
8.6.6 Parts inside of Fix Unit
8.6.6.1 Sensor OPB5

NOTICE

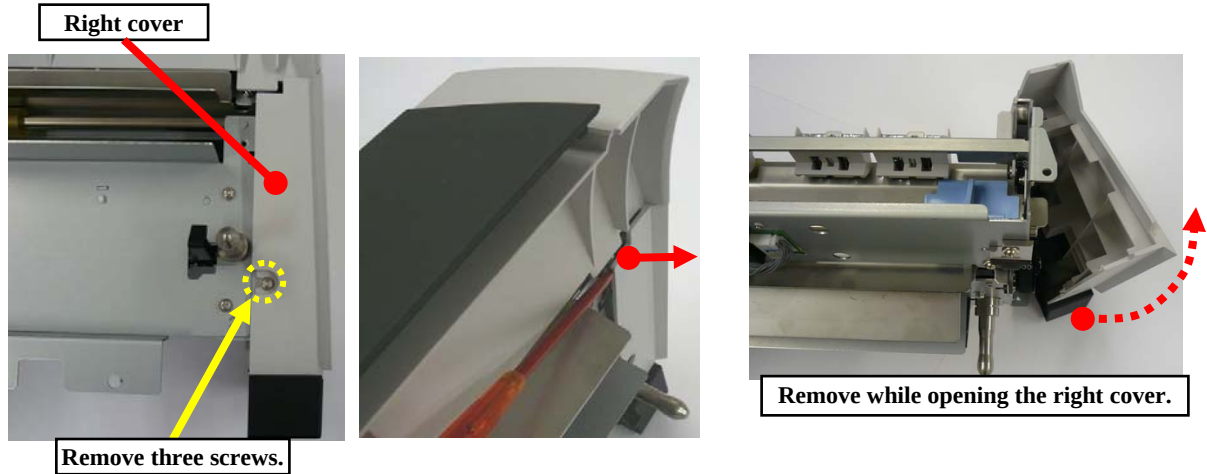
Refer to Section 8.4.1 for the part number of the Sensor OPB5.

<Removal>

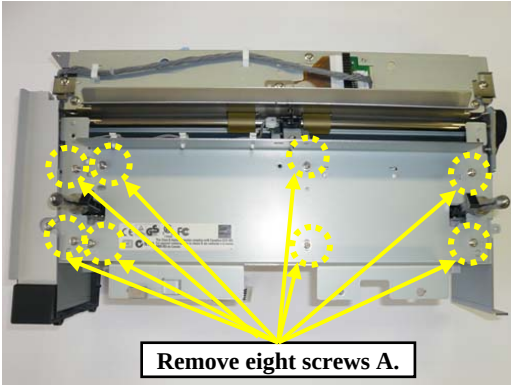
- (1) Remove the Imprinter from the scanner by referring to Section 8.3.2.
- (2) Remove the Print cartridge cover by referring to the step (2) in Section 8.6.4.2.
- (3) Remove the three screws A on the inside face of the Imprinter to remove the cover.



- (4) Remove the screw for the right cover. Insert a small flat-blade screwdriver in the gap between the right cover and the frame to unlatch the cover claw. Then remove the right cover while opening it.

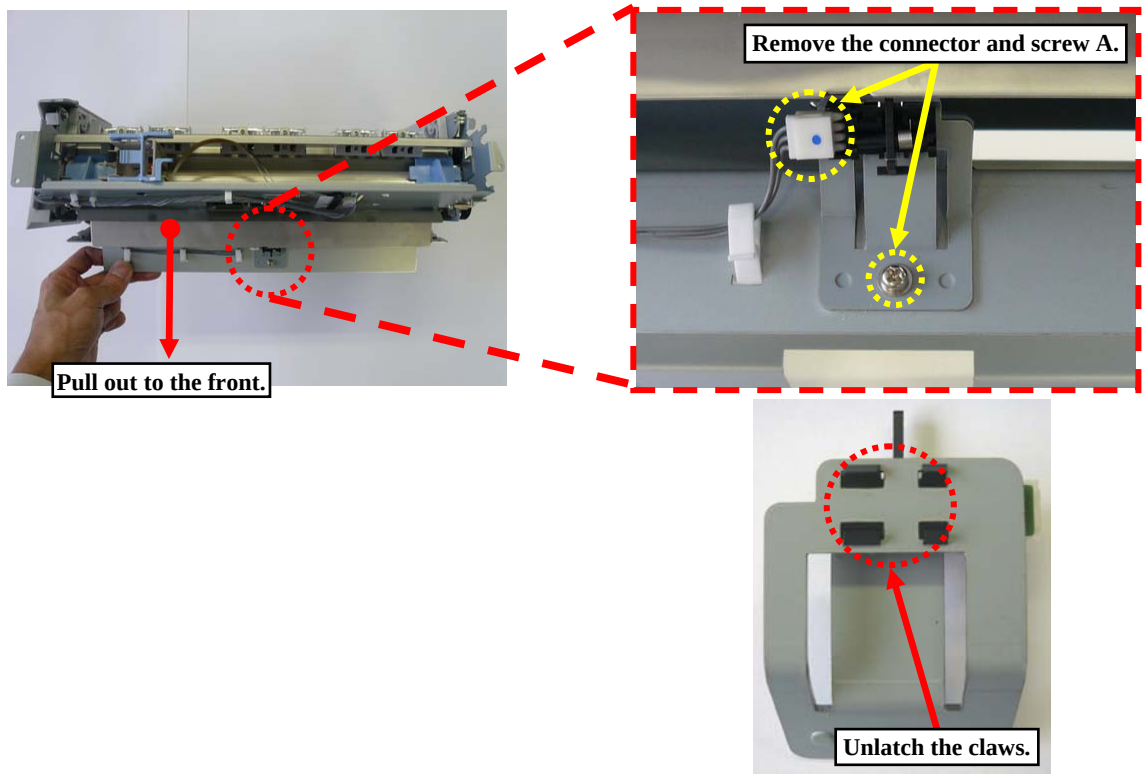


- (5) Remove the eight screws A on the inside face of the imprinter then move the plate toward you.



05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		Drawing No.	P1PA03576—B50X/6		
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.					
Rev.	D A T E	DESIG.	CHECK	APPR.	DESCRIPTION	PFU LIMITED			Page	203 / 231
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- (6) Pulling out the metal plate a bit to the front, disconnect the connector and the bracket screw A on the Sensor OPB5.
Unlatch the claws for the Sensor OPB5 to remove this sensor.



<Installation>

Follow the above procedure in reverse.

Notes:

- Press the Sensor OPB5 down firmly so that the claws engage properly.
- After assembling, confirm that the sensor lever moves smoothly.

05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual			
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		Drawing No.	P1PA03576 — B50X/6		
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	PFU LIMITED		Page	204 / 231	
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DESIG.	May 28, 2008	K.Okada	CHECK	T.Anzai	APPR.		I.Fujioka			

8.6.6.2 Sensor OP

NOTICE

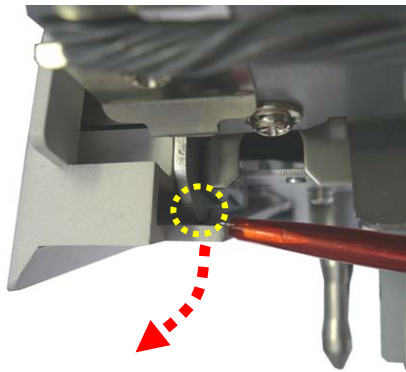
Refer to Section 8.4.12 for the part number of the Sensor OP.

<Removal>

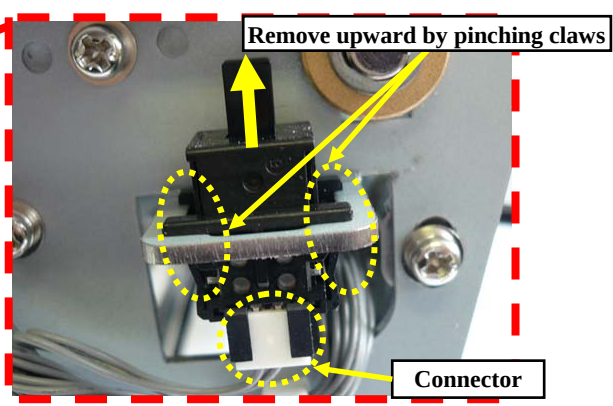
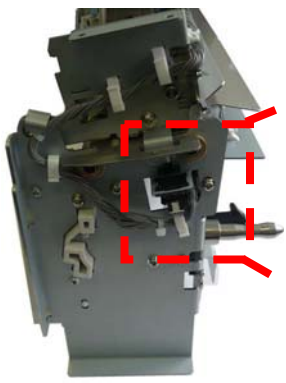
- (1) Remove the Imprinter from the scanner by referring to Section 8.3.2.
- (2) Remove the Print Cartridge cover by referring to the step (2) in Section 8.6.4.2.
- (3) Remove the cover by referring to step (3) in Section 8.6.6.1.
- (4) Remove the screw A for the left cover. Insert a small flat-blade screwdriver in the gap between the left cover and the frame to remove the cover claw. Then remove the left cover while opening it.



Remove a fixing screw A.



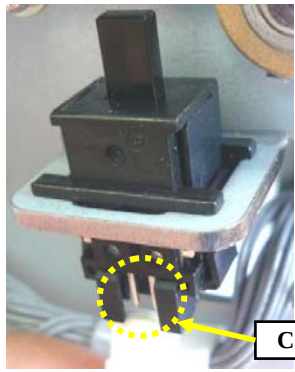
- (5) Disconnect the connector from the Sensor OP, and remove the sensor upward by pinching its claws.)



<Installation>

Follow the above procedure in reverse.

Note: When attaching the Sensor OP, make sure it is positioned as shown in the photo below. You cannot insert the Sensor OP in the reverse direction.



05	July 13, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	Name	fi-6670/fi-6670A/fi-667PR Maintenance Manual					
04	Apr.27, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		Drawing No.	P1PA03576 — B50X/6				
03	Feb.19, 09	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.							
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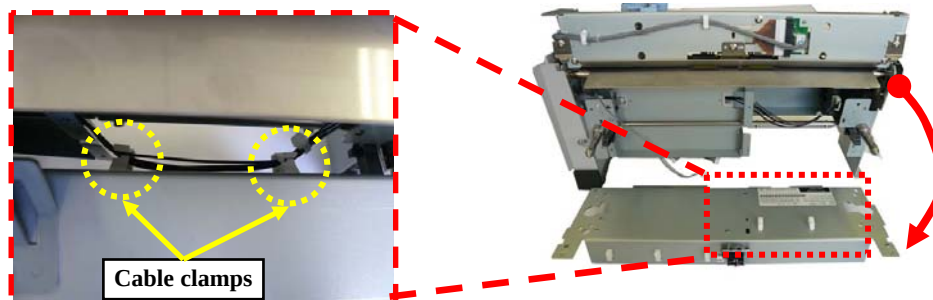
8.6.6.3 Feed Motor

NOTICE

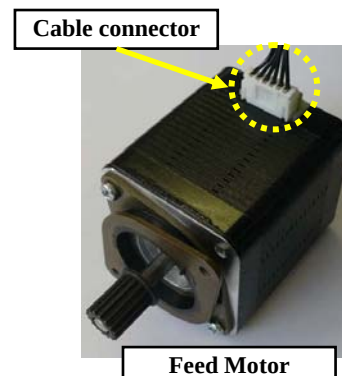
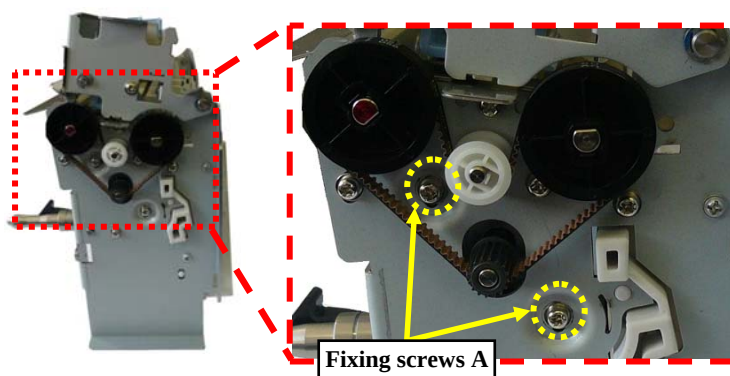
Refer to Specification 8.4.4 for the part number of the Feed Motor.

<Removal>

- (1) Remove the Imprinter from the scanner by referring to Section 8.3.2.
- (2) Remove the Print Cartridge cover by referring to the step (2) in Section 8.6.4.2.
- (3) Remove the cover and Sensor OP5 connector by referring to steps (3) ~ (5) in Section 8.6.6.1.
- (4) Remove the two cable clamps at the back of the cover to remove the cover.



- (5) Remove the two screws A that secure the Feed motor to remove the Feed motor. Disconnect the cable connector from the Feed motor.



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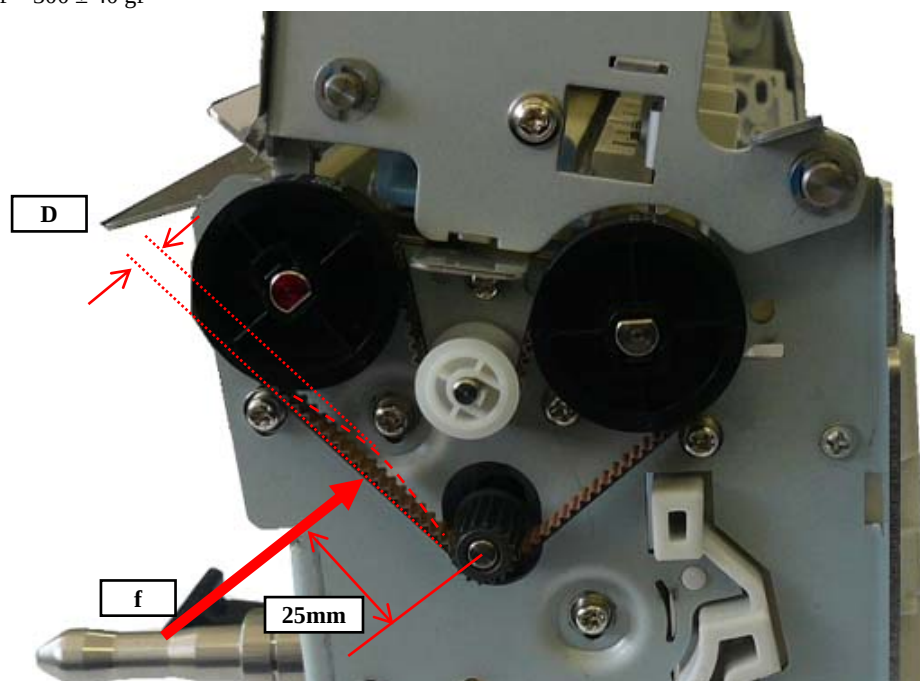
Follow the above procedure in reverse.

NOTICE

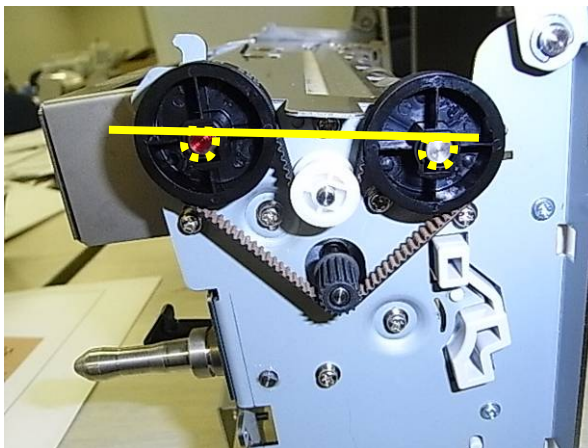
1. When fastening the screws for the Feed motor, adjust the belt tension so that the belt deflects 3mm when 300 grams of force are applied at the location noted in the photo below.

$D = 3 \text{ mm}$

$f = 300 \pm 40 \text{ gf}$



2. When installing the Feed motor, align the phases of the pulleys (D-cut) as shown below.



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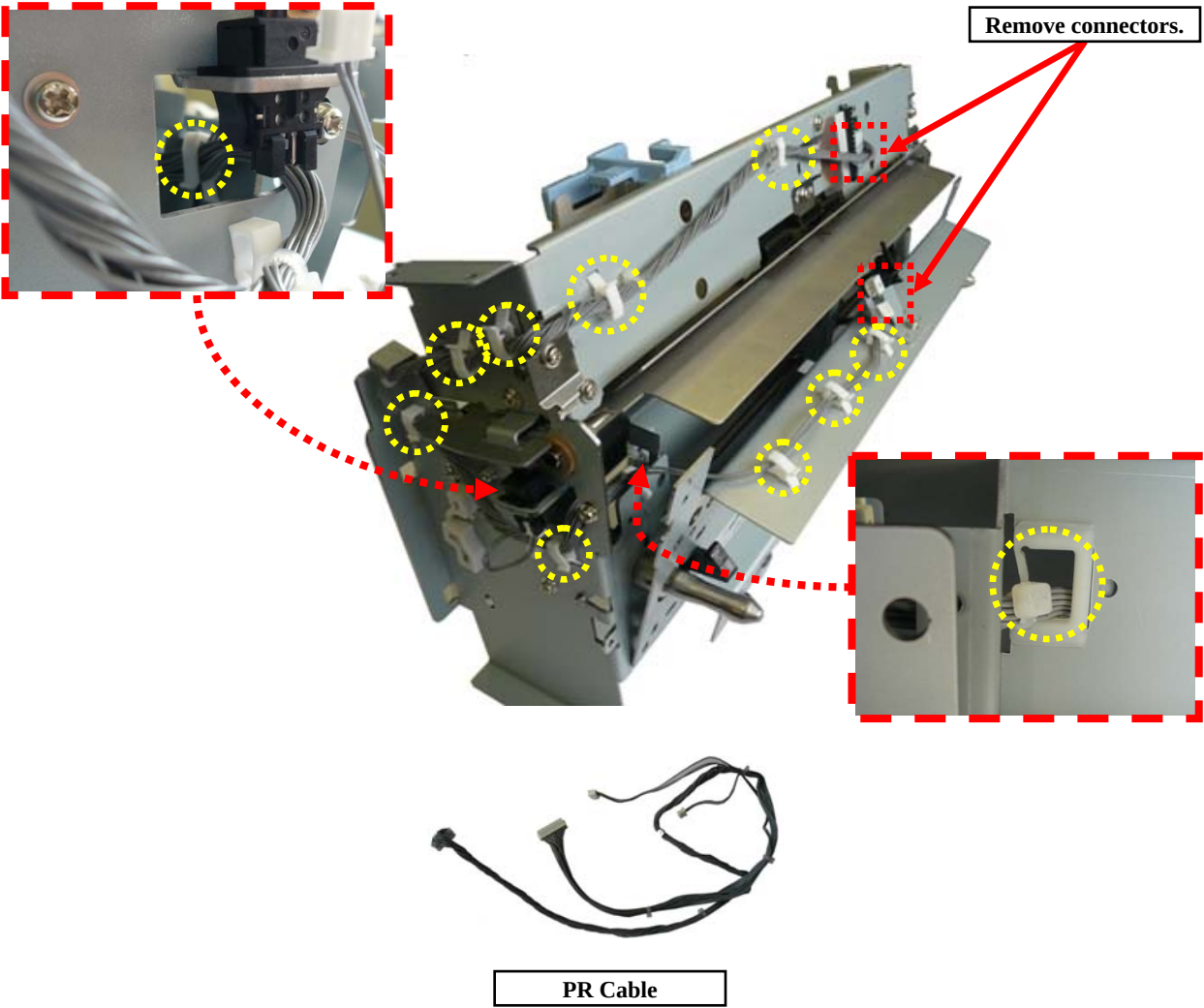
8.6.6.4 PR Cable

 NOTICE

Refer to Section 8.4.7 for part number of the PR Cable.

<Removal>

- (1) Remove the Imprinter from the scanner by referring to Section 8.3.2.
- (2) Remove the Print Cartridge cover by referring to the step (2) in Section 8.6.4.2.
- (3) Remove the right cover by referring to steps (3) ~ (6) in Section 8.6.6.1, and move the metal plate toward you.
- (4) Remove the left cover by referring to step (4) in Section 8.6.6.2.
- (5) Disconnect the PR Cable connector from the Junction PCA, and from the Sensor OP5.
- (6) Remove the PR cable from the cable clamps (11 pieces).



<Installation>

Follow the above procedure in reverse.

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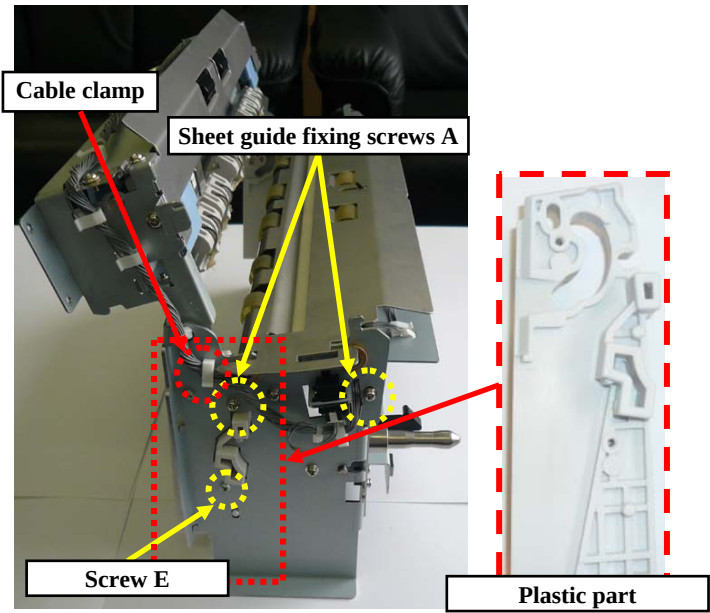
8.6.6.5 IM Felt

NOTICE

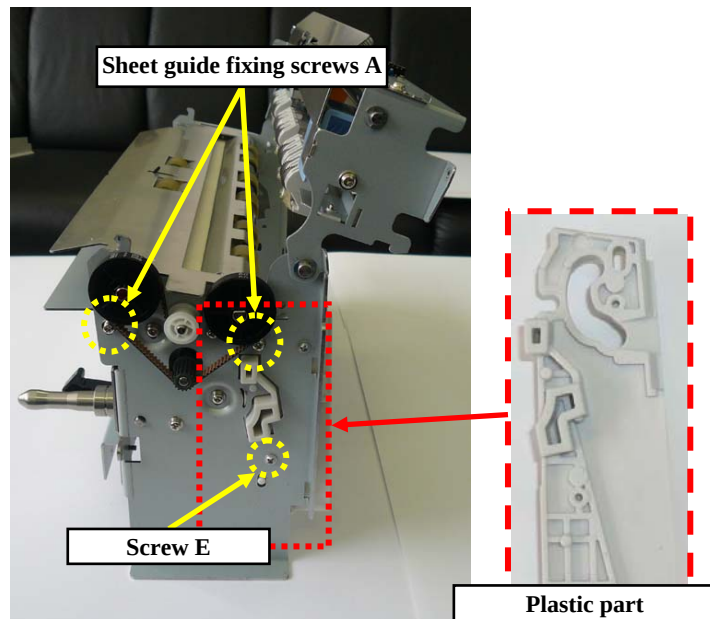
Refer to Section 8.4.8 for the part number of the IM Felt.

<Removal>

- (1) Remove the Imprinter from the scanner by referring to Section 8.3.2.
- (2) Remove the Print Cartridge cover by referring to the step (2) in Section 8.6.4.2.
- (3) Remove the right cover by referring to step (3) ~ (6) in Section 8.6.6.1
- (4) Remove the left cover by referring to step (4) in Section 8.6.6.2.
- (5) Remove the two screws A that secure the Sheet guide and the screw E that secures the plastic part from the left side of the Imprinter.
- (6) Remove the clamp with cable.



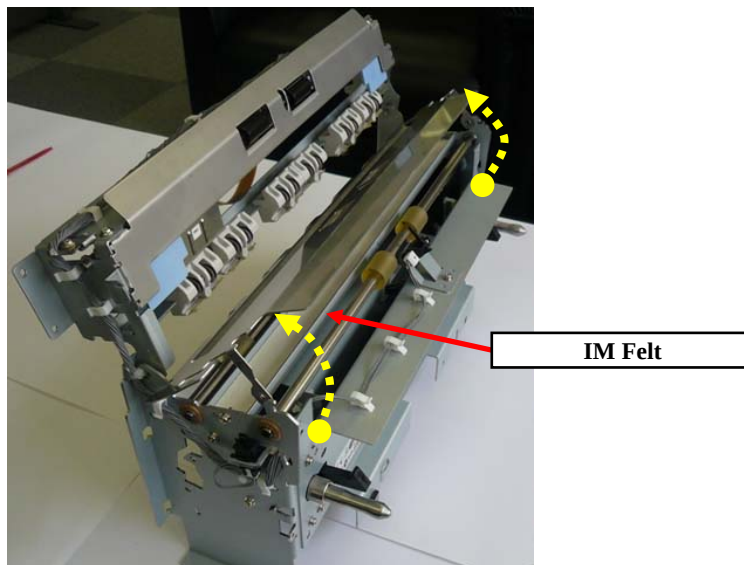
- (7) In the same way as steps (5) and (6), remove the two screws A that secure the Sheet guide and a screw E that secures the plastic part on the right side of the Imprinter.



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(8) Lifting up the Sheet guide, replace the IM Felt.

Note: The IM Felt is not glued to the bracket.



<Installation>

Follow the above procedure in reverse.

Note: You can replace the new IM Felt with either side facing up.

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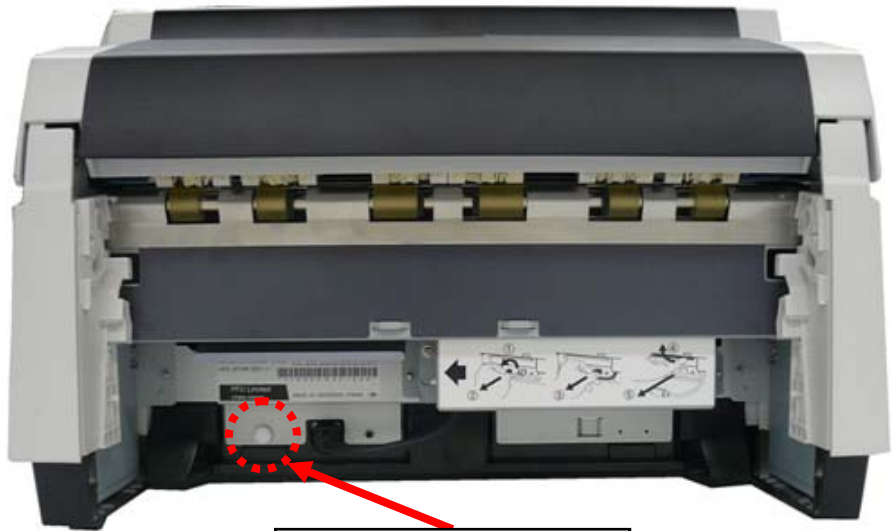
8.6.7 Thumb screw

 NOTICE

Refer to Section 8.4.9 for the part number of the Thumb Screw.

<Removal>

- (1) Lift up the stacker and remove the Thumb screw that secures the imprinter.



Thumb screw inserting position



Thumb Screw

<Installation>

Follow the above procedure in reverse.

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8.7 Adjustment / Setting

Refer to Chapter 6 “Adjustment /Setting.”

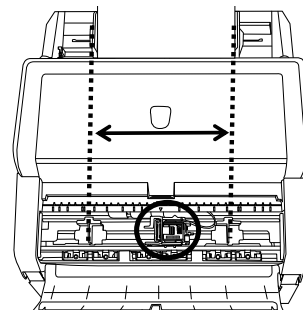
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8.8 Imprinter Basic Operation

8.8.1 Positioning the Print Cartridge

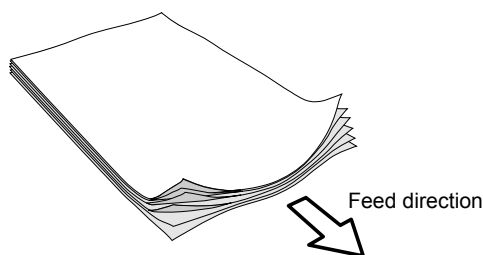
- (1) Open the Print Cartridge Cover.
- (2) Hold the Print Cartridge Holder, as below, and slid it to the left or right within the document width to set it at a suitable print starting position.

- The triangle-shaped protrusion on the locking lever of the Print Cartridge Holder indicates the current print position on the page.
- In the upper back of the Print Cartridge Holder are the document size markings; use them to adjust for paper sizes and printing positions.
- Put the actual document in the ADF and confirm that the print cartridge is positioned within the document's width.



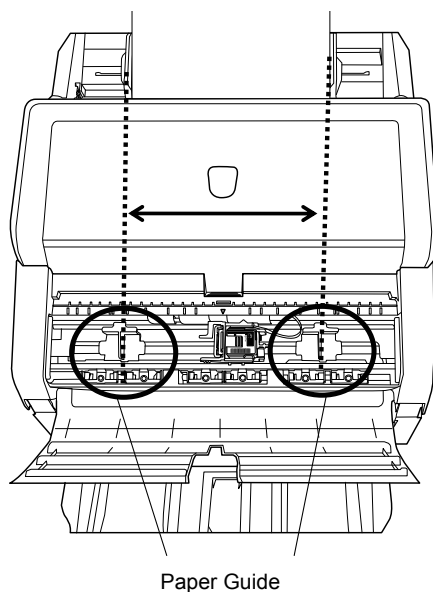
8.8.2 How to Use the Paper Guides

Use the Paper Guides to prevent against paper jams due to pages with curled edges.



Place the Paper Guides at the ends where the paper edges will pass through.

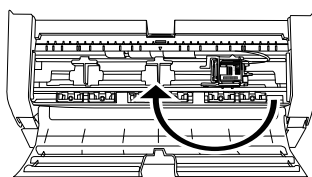
- (1) Place the document on the ADF Paper Chute.
- (2) Open the Print Cartridge Cover.
- (3) Slide the Paper Guides to the left and right edges of the paper.



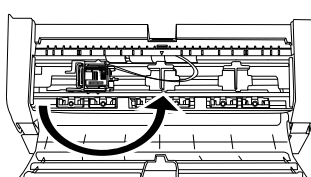
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When you wish to print on a section near the edge of wide paper, remove the Paper Guide in order to open space for the Print Cartridge, and attach the removed guide in the center.

For Right- Edge Printing



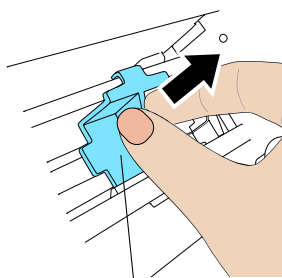
For Left- Edge Printing



Be careful not to let the Paper Guide touch or catch onto the print circuit film.

To Remove the Paper Guides

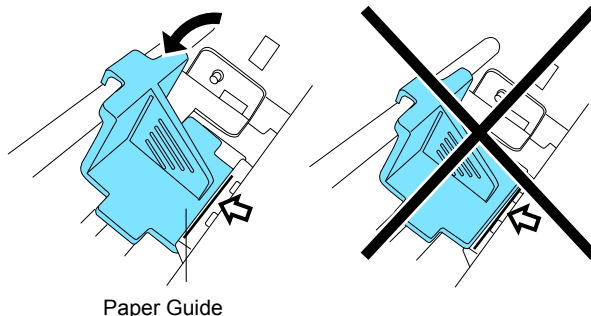
Pressing and holding together with your fingers, as below, lift up and pull away the guide.



Paper Guide

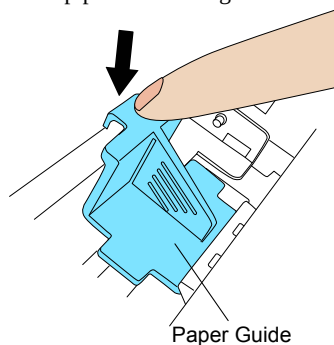
To Attach the Paper Guides

1. Put the Paper Guides in place as in the picture on the left.



Paper Guide

2. Push in the top portion of the guide to fit tightly.



Paper Guide

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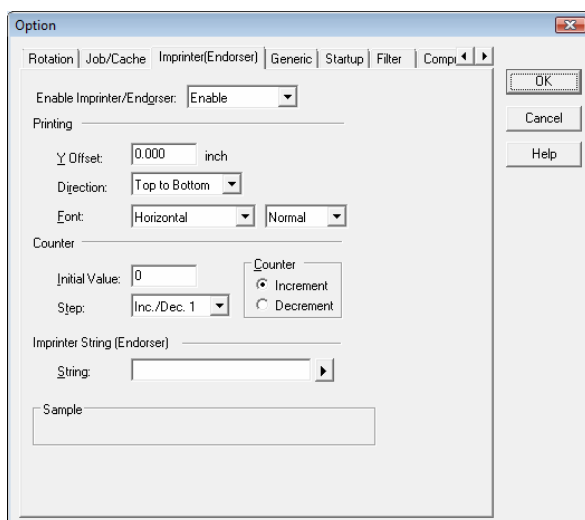
8.8.3 Print Setup

You can configure the settings of the Imprinter by using the scanner driver dialog box.

FUJITSU TWAIN driver (Example)

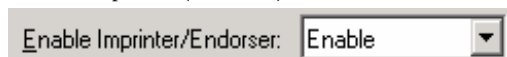
Click the [Option] button.

In the [Option] dialog box (screen below), choose the [Imprinter (Endorser)] tab and specify the Imprinter settings.



Following items are specifiable in this window.

- Enable Imprinter (Endorser)



Specifies enabling or disabling the imprinter function of the device.

Disable : Imprinting is not performed.

Enable : Prints on the documents using the imprinter using the following settings.

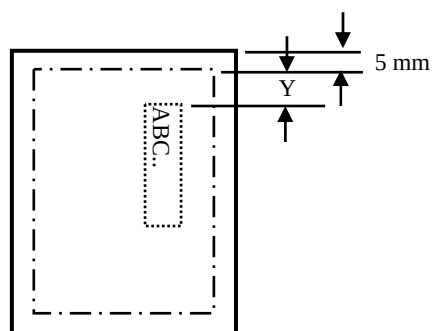
In this case, it prints on the backside of documents after scanning. Therefore, the printing is not included in the scanned image.

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- Y Offset (Print starting point)

Y Offset: mm

Specifies Y Offset from the edge of the documents for the placement of printing. The standard value specified here depends on the device.



- Direction (Font orientation)

Direction:

Specifies the printing direction of endorsement strings.

- Font (Font width)

Font:

Specifies the printing orientation of characters.

		Direction:	
		Top to Bottom	Bottom to Top
Font:	Vertical		
	Horizontal		

- Initial Value

Initial Value:

Designates the initial count when the Imprinter String is set, including a counter value.

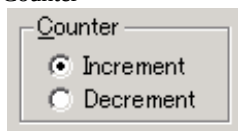
- Counter Step

Step:

Configures whether the count increments or decrements. In other words, this value is added to or subtracted from the counter each time an original is scanned. An increment of 0, 1, or 2 may be specified. Usually, 1 is designated for a single-sided original, and 2 for a double-sided original.

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- Counter



Designates whether to increase or decrease the specified step value.

- Imprinter String definition



Specifies the imprinter string.

The following characters can be output by the Imprinter.

Alphabet Letters : A-Z, a-z

Numeric Characters : 0, 1-9

Symbols : !"#%&'()*+,-./:;<=>@[¥]^_`{|}~

Other : (Space)

(*The space is ignored when it is entered at the head of [String:].)

The following definitions can be used. They may also be selected from the menu, which is displayed by clicking on



%YYYY: The year is printed in four digits using the Western calendar.

%YYY: The year is printed using the two digits of the Japanese calendar (current, or Heisei era).

%YY: The year is printed in the last two digits of the Western calendar.

%MMM: An English abbreviation of the month is printed; for example, JAN for January and FEB for February.

%MM: The month is printed in two digits; for example, 01 for January and 12 for December.

%M: The month is printed using one or two digits; for example, 1 for January and 12 for December.

%DD: The day is printed using two digits; for example, 03 for the 3rd day of the month and 26 for the 26th day of the month.

%D: The day is printed using one or two digits; for example, 3 for the 3rd day of the month and 26 for the 26th day of the month.

%HH: The hour is printed using two digits of the 24-hour clock; for example, 08 for 8:00 a.m. and 14 for 2:00 p.m.

%H: The hour is printed using one or two digits of the 24-hour clock; for example, 8 for 8:00 a.m. and 14 for 2:00 p.m.

%NN: The minute is printed using two digits; for example, 02 for 8:02 a.m. and 48 for 2:48 p.m.

%N: The minute is printed using one or two digits; for example, 2 for 8:02 a.m. and 48 for 2:48 p.m.

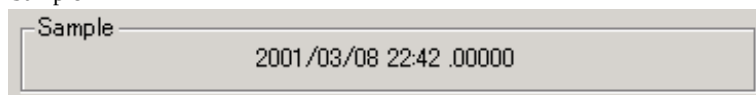
%Nud: A counter value is printed by N digits which increases or decreases with each page.

Programmable digits of the counter is 5 and 8 and described as "%05ud" and "%08ud" respectively. The programmable digits depend on the device.)

The initial counter and the methods of increasing and decreasing values can be specified as explained above under the heading "Counter."

This specification is only permitted at the end of an Imprinter String (Endorser).

- Sample



Displays printed examples of the Imprinter String (Endorser) designated above.

Note.

The printed counter, date, and time do not always look like the sample because the scanning option takes precedence.

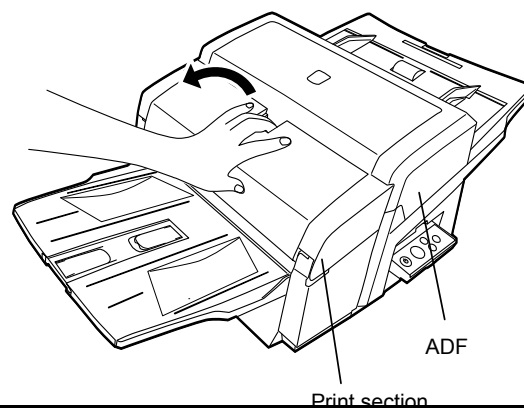
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8.8.4 Removing Jammed Documents

Remove jammed document sheets as follows:

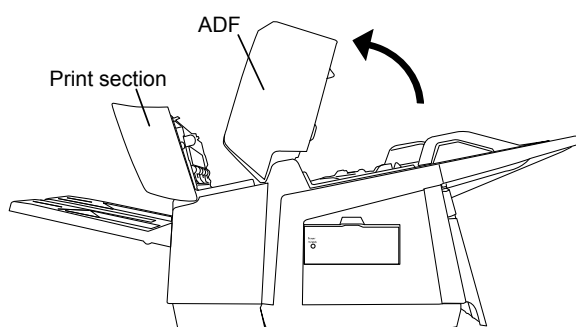
Do not forcefully pull out the document pages.

- (1) Remove the documents from the ADF Paper Chute.
- (2) Open the Print section.

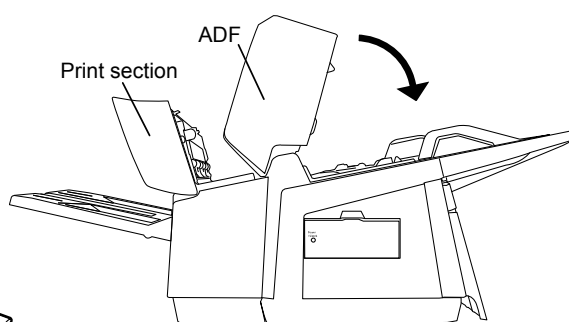


To open the ADF, first open the Print section before proceeding.

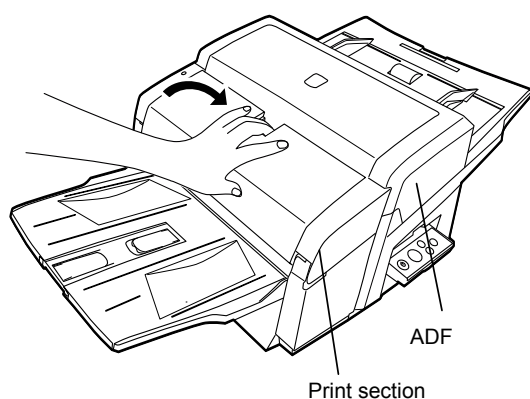
- (3) Open the ADF.



- (4) Carefully remove all the jammed documents.
- (5) Close the ADF.



- (6) Close the Print section.



- Be sure that the ADF is closed first before closing the Print section.
- Do not move the imprinter and scanner while printing. Printing may distort.
- When you are not going to use the imprinter for a long time, please remove the print cartridge from the imprinter and store it.
- Ink is consumed every time at the initial start-up of the imprinter though no printing is performed.
- Do not move the imprinter with the print cartridge installed. The imprinter may become damaged.

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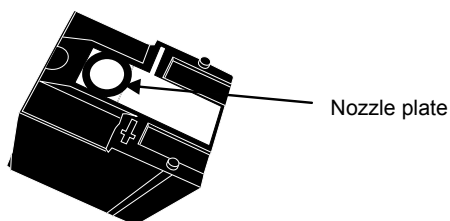
8.9 Daily Care

8.9.1 Cleaning the Print Cartridge

Poor quality prints can occur due to blocked ink emission holes in the nozzle. Leaving the imprinter unused for long periods can also cause emission holes to become blocked. When the emission holes are blocked, clean the nozzle surface of the print cartridge.

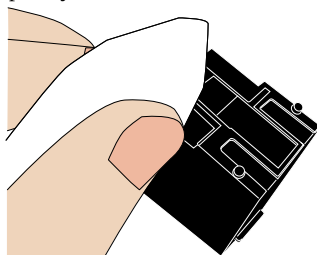
For cleaning, use a dry lint-free cloth (DO NOT use tissue), and gently wipe any dirt and stains off the nozzle's surface.

- (1) Turn off the Scanner.
- (2) Remove the Print Cartridge. (Refer to Section 8.9.4)



When cleaning, be careful not to touch the Nozzle plate or the contact parts of the cartridge directly by hand.

- (3) Gently wipe any dirt and stains off the nozzle surface.



- (4) Make sure that all dirt and stains are removed before reinstalling the print cartridge. (Refer to Section 8.9.4)

When installing or replacing the print cartridge, be careful not to insert it out of place.

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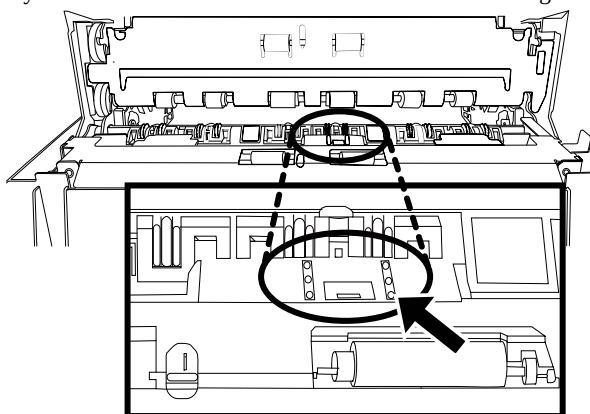
8.9.2 Cleaning the Imprinter

After frequent use, ink will begin to accumulate or stick to the base of the Imprinter, which can soil printouts. Always maintain the imprinter base clean.

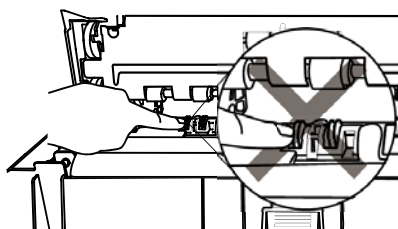
To assure high quality print outs and long use of the imprinter, adopt a daily maintenance procedure as explained below.

- When cleaning, gently wipe the imprinter base with an absorbent item that can remove the ink.
- If the ink is dried, gently wipe it with a moistened cloth. (Since the ink is water soluble, it can be cleaned with water.)

- (1) Turn off the Scanner.
- (2) Open the Print Cartridge Cover and remove the print cartridge. (Refer to Section 8.9.4.)
- (3) Open the Print section.
- (4) Wipe off any dirt and dust on the base surface of the Print Cartridge Holder with a lint-free cloth.



When cleaning, be careful not to touch the metal wheels located behind the upper rollers on the print cartridge cover.



- (5) Check that the dirt is wiped off, and then close the Print section.
- (6) Reinstall the Print Cartridge and close the Print Cartridge Cover. (Refer to Section 8.9.4.)

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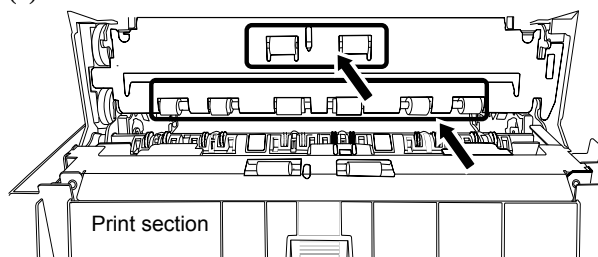
8.9.3 Cleaning the Rollers

When ink or dust from the paper is stuck on the imprinter feed roller surfaces, documents may not feed smoothly. To prevent feed problems, clean the roller surfaces regularly.

Recommended cleaning cycle is every 5,000 sheets. Actual cleaning cycle may be shorter depending on usage and documents.

(1) Open the Print section.

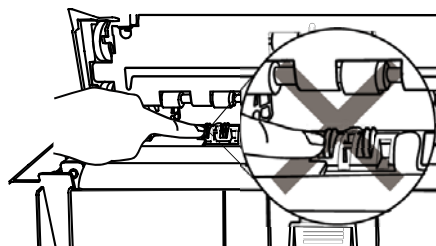
(2) Clean the rubber rollers located as shown below.



With a lint-free cloth, gently wipe off the dirt or dust from the roller surfaces.

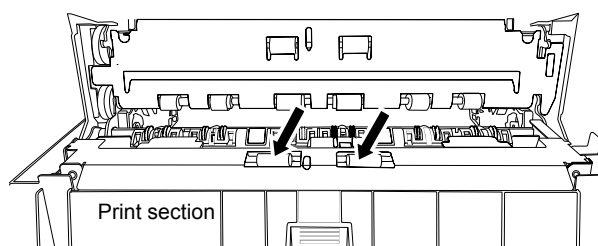
To clean the lower rubber rollers, rotate the rollers by holding down the [Scan/Stop] button and [Send to] button on the operator panel of the scanner simultaneously.

When cleaning, be careful not to touch the metal wheels located behind the upper rollers on the print section.



(3) Clean the Plastic Rollers.

Clean the two black plastic rollers on the inner side of the Print section.



Rotate the rollers with your fingers gently and wipe off any dirt or dust from the roller surface with a lint-free cloth.

(4) Confirm that all dirt and dust have been removed from the rollers. Close the Print section.

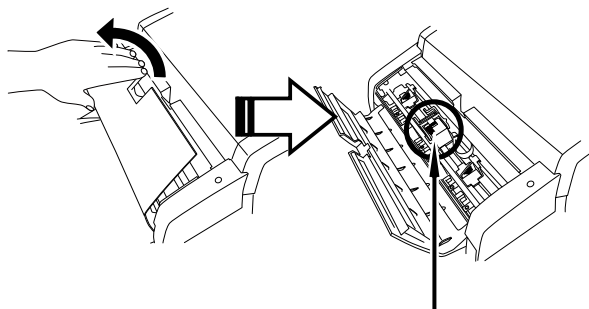
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8.9.4 Replacing the Print Cartridge

- When the message to the right appears, replace the Print Cartridge as soon as possible.
- If you continue to print without replacing the cartridge, your print output will continue to appear lighter and lighter.
- When installing the print cartridge, be careful not to insert it out of place.

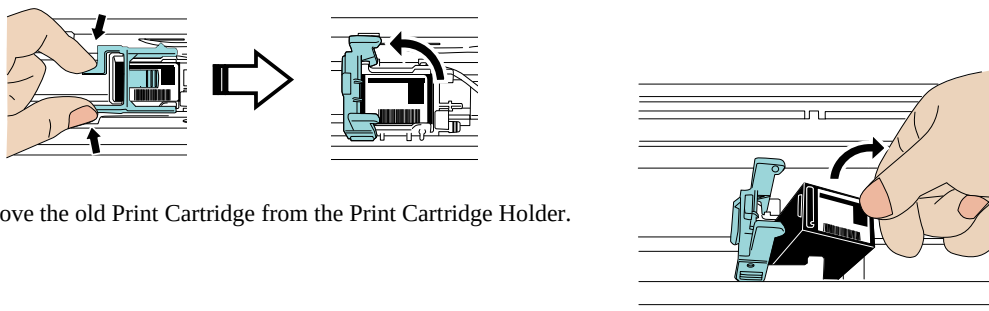


- (1) Turn off the scanner.
- (2) Open the Print Cartridge Cover by grasping its center and turning it towards you, as shown below.

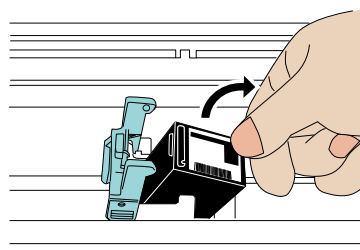


Print Cartridge Holder

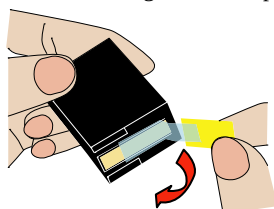
- (3) Open the Print Cartridge Holder by slightly pinching and lifting up its locking lever with your finger as shown below.



- (4) Remove the old Print Cartridge from the Print Cartridge Holder.

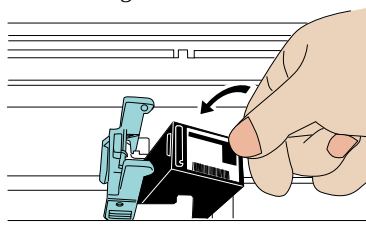


- (5) Take the new Print Cartridge out of its pouch and detach the protection tape from the Print Cartridge.



Do not touch the metal part of the cartridge nor put the tape back again.

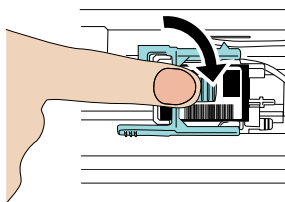
- (6) Place the Print Cartridge into the holder as shown below with its tab positioning to the right.



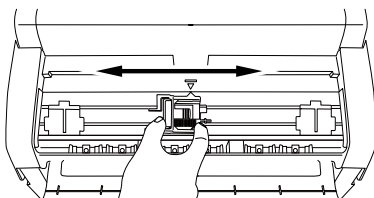
Be careful not to let the print cartridge touch or catch on to the print circuit film.

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- (7) Lower the locking lever of the Print Cartridge Holder until it locks in and fixes the cartridge in place.

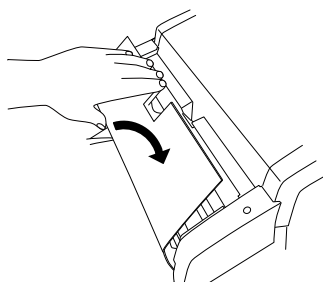


- (8) Position the Print Cartridge Holder along where the document will pass through.



Be sure to position the print cartridge to have enough space from the document edge.
If you position the Print Cartridge too close to the document edge, printing may be performed out of the document width.

- (9) Close the Print Cartridge Cover.

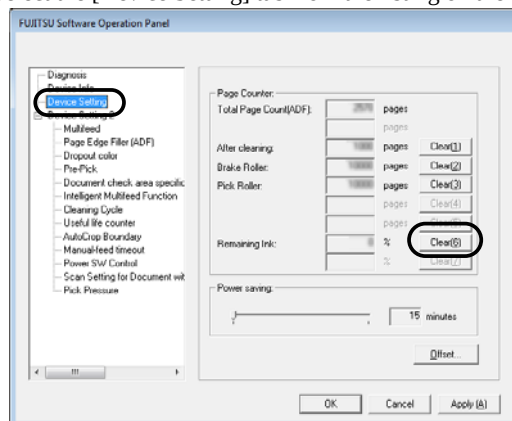


- (10) Turn on the scanner.

- (11) Reset the Remaining Ink Counter.

You must clear the Remaining Ink Counter whenever you replace the print cartridge.

- On the [Start] menu, select [All Programs] –[Scanner Utility for Microsoft Windows]- [Software Operation Panel].
- Select the [Device Setting] tab from the listing on the left.



- Click the [Clear] button at the [Remaining Ink].

➔The Ink remain counter will reset to 100%.

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Appendix 1 Screws

The screws that are used in this device (scanner and imprinter) are as follows.

Name on this manual	Description	Part number	Remarks
Screw A	SCREW	RU6SW2N3-08121	fi-6670/fi-6670A fi-6770/fi-6770A/fi-6750S



Name on this manual	Description	Part number	Remarks
Screw B	SCREW	U30L-0010-0030#M3x8	fi-6670/fi-6670A fi-6770/fi-6770A/fi-6750S



Name on this manual	Description	Part number	Remarks
Screw C	SCREW	RU6SW2N3-06121	fi-6670/fi-6670A fi-6770/fi-6770A/fi-6750S



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Name on this manual	Description	Part number	Remarks
Screw D	SCREW	RU6SW2N3-05121	fi-6670/fi-6670A fi-6770/fi-6770A/fi-6750S



Name on this manual	Description	Part number	Remarks
Screw E	PT SCREW	PA83952-5038	fi-6670/fi-6670A fi-6770/fi-6770A/fi-6750S



Name on this manual	Description	Part number	Remarks
Screw F	PT SCREW	PA83952-2636	fi-6670/fi-6670A fi-6770/fi-6770A/fi-6750S



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Name on this manual	Description	Part number	Remarks
Screw G	SCREW	RU6SW2N4-10121	fi-6670/fi-6670A fi-6770/fi-6770A/fi-6750S



Name on this manual	Description	Part number	Remarks
Screw H	SCREW	RU6SW2N3-14121	fi-6670/fi-6670A fi-6770/fi-6770A/fi-6750S



Name on this manual	Description	Part number	Remarks
Screw I	SCREW	U120-4300-Z624	fi-6670/fi-6670A fi-6770/fi-6770A/fi-6750S



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Name on this manual	Description	Part number	Remarks
Screw J	SCREW	RU6SNA2R5-05121	fi-6670/fi-6670A fi-6770/fi-6770A/fi-6750S



Name on this manual	Description	Part number	Remarks
Screw K	SCREW	CA98001-8785	fi-6670/fi-6670A fi-6770/fi-6770A/fi-6750S



Name on this manual	Description	Part number	Remarks
Screw L	SCREW	RU6SNA3-06121	fi-6670/fi-6670A



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Name on this manual	Description	Part number	Remarks
Screw M	C SCREW	PA03951-0610	fi-6770/fi-6770A/fi-6750S



Name on this manual	Description	Part number	Remarks
Screw N	PT SCREW	PA83952-5040	fi-6770/fi-6770A/fi-6750S



Name on this manual	Description	Part number	Remarks
Thumb screw	THUMB SCREW	PA83951-1510	fi-6670/fi-6670A fi-6770/fi-6770A/fi-6750S



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Appendix 2 Emulation Mode

Emulation of the following scanners can be specified on this scanner.

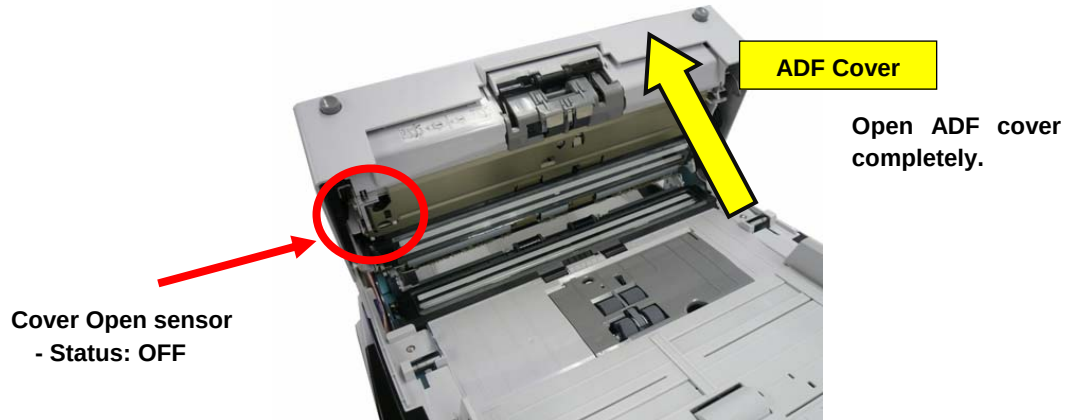
Model name	Scanner that can be emulated
fi-6670	fi-5650C
fi-6670A	

To activate the Emulation function, scanner setting needs to be changed.

For the configuration method, see below.

1. With the ADF cover open and the Cover Open sensor status OFF (by opening the cover all the way), press the **Power** button while pressing the **Function** button. (In this mode, the scanner interface with the host becomes off-line.)

* fi-6670 and fi-6670A have the operator panels on both sides. The operation can be done at either panel.



The following is the Function Number Display and the scanner status transition during scanner initialization after the power is turned ON in the procedure above.

Function No. Display	Scanner status
8	Initializing



Function No. Display	Scanner status
8	In Maintenance Mode



Function No. Display	Scanner status
8	In Emulation switch mode

- When the scanner goes into the Maintenance Mode, let go of the **Function** button.

- When the scanner goes into the Emulation switch mode, close the ADF cover.

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2. During the Emulation switch mode, press the **Scan/Stop** button to display the current scanner setting.
 - If the Emulation mode is activated for the first time, the initial value (standard) "0" appears on the Function Number Display.
 - When fi-5650C is selected, "1" appears on the Function Number Display.
3. Pressing the **Function** button changes the displayed number. Press it several times until the number for the model you want your scanner to emulate appears.
 - If your scanner is fi-6670, to emulate fi-5650C, press the **Function** button several times until "1" is displayed on the Function Number Display.

Function No. Display	Emulated model	Your scanner	Remarks
		fi-6670/fi-6670A *1	
0	fi-6670	✓	Initial value (standard) Emulation mode invalid
1	fi-5650C	✓	

*1: Emulation on fi-6670A through CGA board (SCSI/USB) is not available.
With a standard interface, use the Emulation function as fi-6670.

4. Press the **Scan/Stop** button to display the selected scanner name (numbers) by turns.
 - The first "-" is a start mark. "SP" signifies "OFF: No display". Switching interval is 0.5 second.

Emulation mode	How to display
fi-6670	"6670" is displayed as below repeatedly. "-" → "6" → "SP" → "6" → "SP" → "7" → "SP" → "0" → "SP"
fi-5650C	"5650" is displayed as below repeatedly. "-" → "5" → "SP" → "6" → "SP" → "5" → "SP" → "0" → "SP"

5. If the scanner name (numbers) displayed on the Function Number Display is correct, press the **Function** button.
Pressing the **Function** button displays Screen E1 to ask whether to write the selected mode into EEPROM.
 - To cancel the process, press the **Send to** button and return to the initial display of the Emulation mode.

[Screen E1]

Function No. Display	Power LED	Scanner status
	ON	Blinks "o" (lower). Interval of blinking: 1.0 second (Switching interval of light ON and OFF is 0.5 second)

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6. Writing to EEPROM.

Pressing the **Scan/Stop** + **Function** buttons writes the information of the scanner of which setting has been changed into EEPROM.

While the data is being written into EEPROM, Screen E2 appears.

When writing process is complete successfully, Screen E3 appears.

- To cancel the process, press the **Send to** button and return to the initial display of the Emulation mode.

[Screen E2]

Function No. Display	Scanner status
	Displays “L” without blinking.

Data is being written into EEPROM.
No button is available.

(1) When the process is terminated successfully:

[Screen E3]

Function No. Display	Scanner status
	Displays “o” (upper) without blinking.

When data writing into EEPROM is complete successfully, Screen E3 appears.

(2) When the process is terminated abnormally:

[Screen E4]

Function No. Display	Scanner status
	Displays “c” (lower) without blinking.

If writing to EEPROM failed, the Screen E4 appears.

7. Restart the scanner.

If the process is terminated abnormally, turn off the power and back on again to restart the scanner.

Scanner configuration change for Emulation mode is complete now.

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